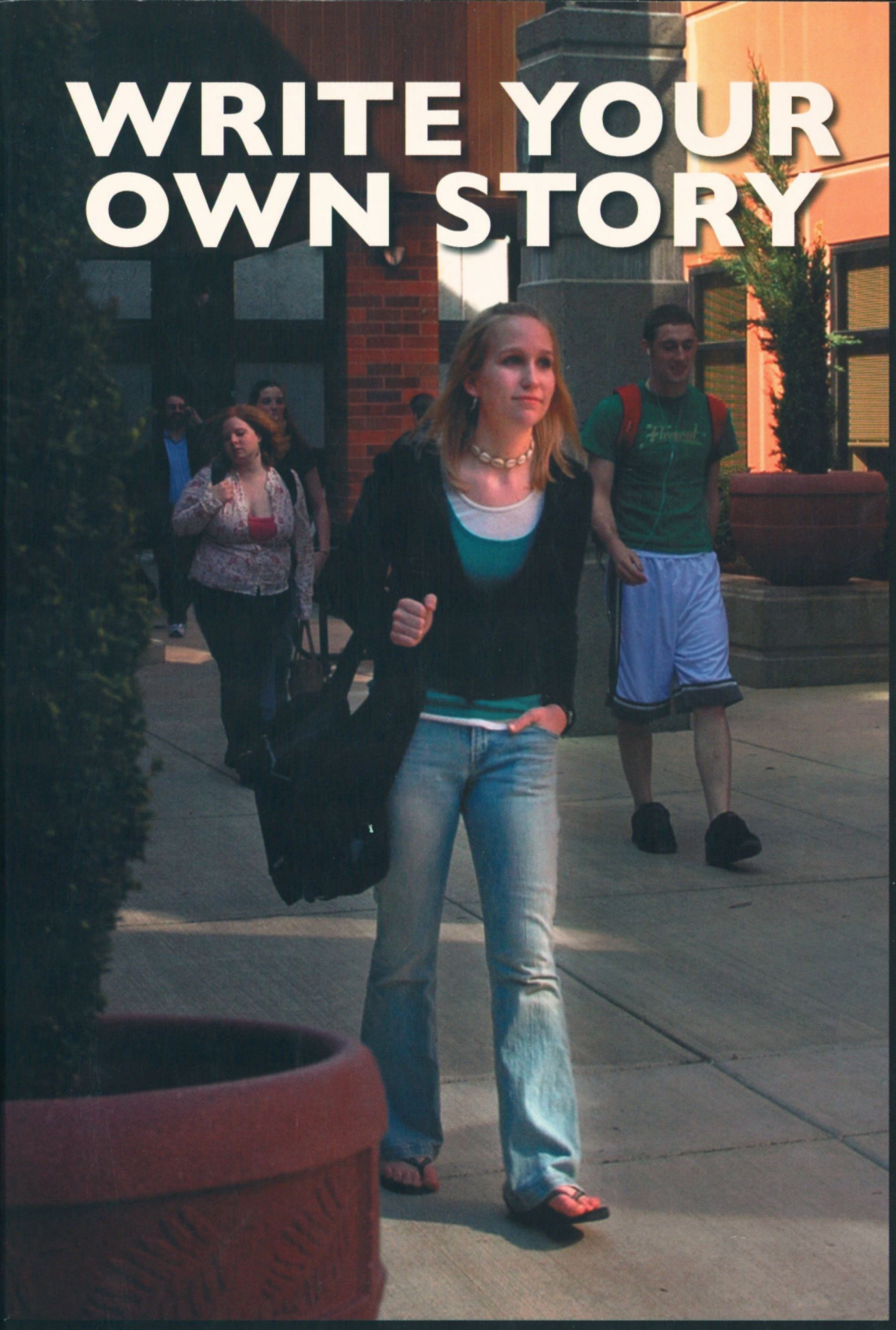
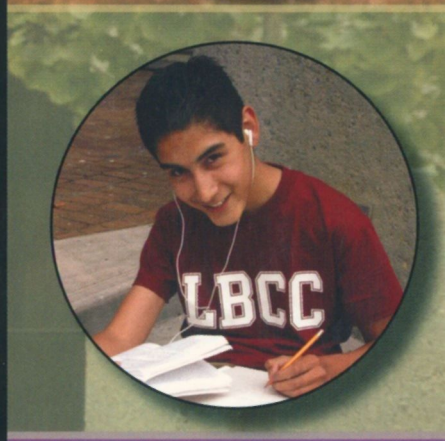
WRITE YOUR OWN STORY











2007-2008 CATALOG

Linn-Benton COMMUNITY COLLEGE

CELEBRATING 40 YEARS
LINN-BENTON COMMUNITY COLLEGE
1967-2007

2007-2008 General Catalog

Linn-Benton
COMMUNITY COLLEGE

2007-08 Academic Calendar*	Summer 2007	Fall 2007	Winter 2008	Spring 2008
Registration begins	See quarterly Schedule of Classes			
Classes begin	June 25	September 24	January 7	March 31
Last day to drop without "W" in person	July 6	October 5	January 18	April 11
Last day to drop without "W" via SIS	July 8	October 7	January 20	April 13
Last day to withdraw and qualify for a refund (full-term classes) in person	July 6	October 5	January 18	April 11
Last day to request P/NP (full-term classes) in person	August 10	November 9	February 22	May 16
Last day to request P/NP (full-term classes) via SIS	August 12	November 11	February 24	May 18
Last day to officially withdraw (full-term classes) in person	August 10	November 9	February 22	May 16
Last day to officially withdraw (full-term classes) via SIS	August 12	November 11	February 24	May 18
Last day to add open-entry/ late-starting classes in person	August 17	November 21	March 7	May 30
Last day to add open-entry/ late-starting classes via SIS	August 19	November 25	March 9	June 1
Final exams	Last week of class	December 3-7	March 17-21	June 9-13
Commencement Ceremony	-	-	-	June 12
Last day of term	August 31	December 7	March 21	June 13
Holidays/in-service: No classes	See quarterly Schedule of Classes			

*Deadlines for full-term courses are indicated here. Please see the quarterly Schedule of Classes for other deadlines. Dates & deadlines subject to change.

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Catalog Information

The information contained in the current LBCC Catalog and quarterly Schedule of Classes reflects an accurate picture of Linn-Benton Community College at the time of publication. However, conditions can and do change. Therefore, the college reserves the right to make any necessary changes in the matters discussed herein, including procedures, policies, calendar, curriculum, course content, emphasis and cost. Students enrolling in LBCC classes are subject to rules, limits and conditions set forth in the current General Catalog; Schedule of Classes; the Student Rights, Complaints, Freedoms and Responsibilities Policy; and other official publications of the college.

Nondiscrimination Policy

It is the policy of LBCC that there will be no discrimination on the grounds of race, color, sex, sexual orientation, marital and/or parental status, religion, national origin, age, mental and physical disability, Vietnam Era or disabled veteran status, opposition to safety and health hazards, application for workers' compensation benefits, or any other status protected under applicable federal, state, or local law in its programs, activities or employment. Questions about equal opportunity and nondiscrimination in employment should be addressed to the LBCC Human Resources Office, Linn-Benton Community College, 6500 Pacific Blvd. S.W., Albany, OR 97321. Students should contact the Dean of Student Services at (541) 917-4806.

College Overview

Each year, more than 23,000 individuals take at least one class at Linn-Benton Community College and almost 6,000 attend full time, making LBCC one of the largest community colleges in Oregon. About 33 percent of local high school graduates come directly to LBCC after graduation. The average age of our full-time students is 25.

LBCC was established in 1966 as a two-year public college to serve the residents of Linn and Benton counties. Students attend for many reasons: to obtain employment training, to improve their existing employment skills, to begin a four-year college program, or to enrich their lives through learning.

LBCC's 104-acre campus is just two miles south of Albany, Oregon, and 11 miles east of Corvallis. The Albany campus houses a learning resource center, bookstore, 500-seat theater, library and student lounge/recreation rooms. Dining facilities include a cafeteria, a cafe and a restaurant operated by students in the Culinary Arts program. An LBCC horse management facility is located a short 1.5 miles from the Albany campus.

In addition, LBCC reaches out to it's community with the Lebanon Center, Sweet Home Center and Benton Center (Corvallis).

All college facilities and parking are designed to accommodate the needs of people with disabilities, and public buses provide students with free transportation between LBCC and downtown Albany, Corvallis, Philomath, Lebanon, Sweet Home and other communities in East Linn County.

Mission Statement

Linn-Benton Community College supports the dreams of our students by providing comprehensive programs and services that are innovative and accessible. We are passionately committed to meeting the educational needs of individuals, businesses and our communities through learner-centered and life-changing experiences.

Vision

LBCC . . . where learning changes lives.

Core Values

- Pursue excellence
- Believe in the potential of everyone
- Create opportunities for success
- Serve our community with integrity
- Celebrate the gifts of diversity
- Ignite creativity
- Awaken the teacher and learner in all of us

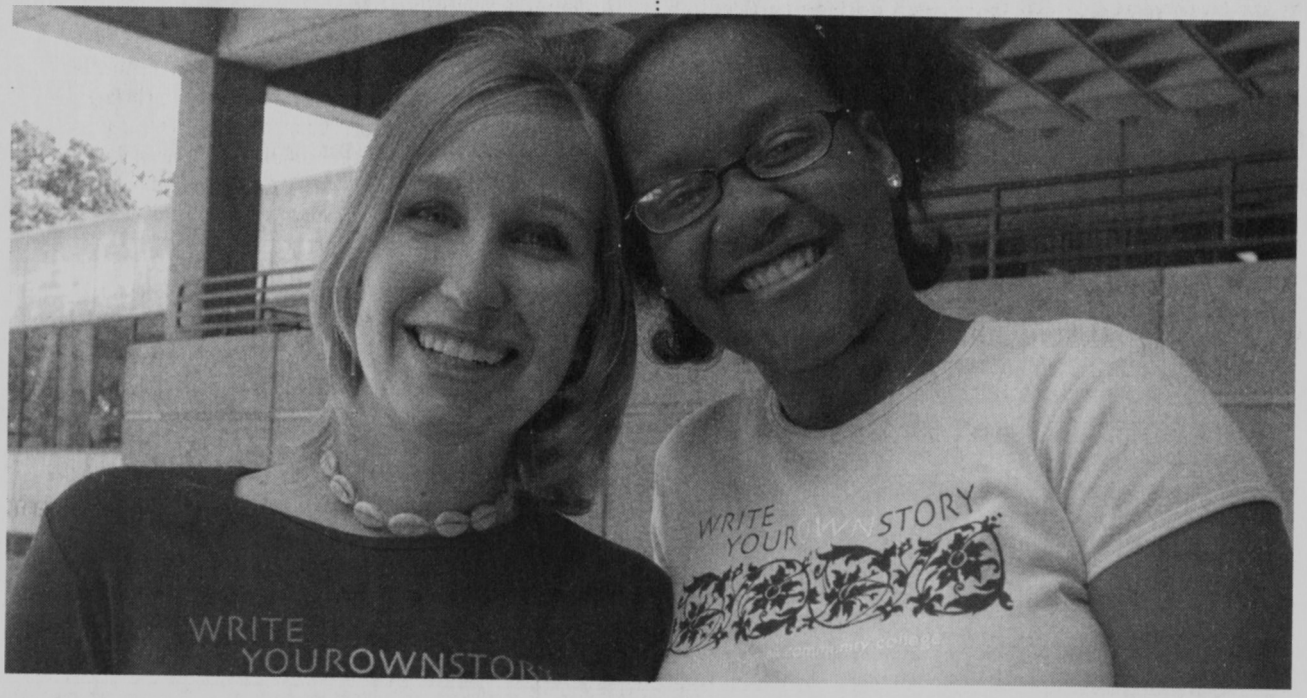
Governance and Accreditation

Supported by tuition, local property taxes and state revenue, the college is directed by an elected, seven-member board of education.

Linn-Benton Community College has been accredited by the Accrediting Commission of the Northwest Association of Colleges and Universities. Courses are approved by the Oregon State Board of Education, and lower-division courses are approved for transfer to colleges and universities in the Oregon University System. To review LBCC's accreditation status, contact the President's Office at (541)917-4200.

Retention, Graduation Rates

In compliance with the Student Right-To-Know and Campus Security Act (Public Law 101-542), retention and graduation rates are available at http://www.linnbenton.edu/go/about-lbcc/policies/student-right-to-know.



HOW TO ENROLL IN A CLASS AT LBCC

Student Category	Enrollment Procedures
New, Fully Admitted, **Degree-Seeking, Full-Time Student and/or Student Applying for Financial Aid** *If you want to take 12 or more credits, or you want to receive VA benefits or financial aid and get priority registration, you must be fully admitted.*	• Complete an application and submit it, along with the $25 application fee, to the Admissions Office in Takena Hall. Note: If you are under 18 years of age, you must provide proof of high school graduation or GED completion. • Call the Student Assessment Center (917-4781) to schedule a Computerized Placement Test (CPT). After you complete the CPT, you will receive an acceptance letter with the date and time of your orientation/advising appointment. • Attend your orientation/advising session at the assigned time or complete online orientation. • Register for classes by using the SIS (the Student Information System) on the Web or register at the Registration Counter in Takena Hall. • Pay your tuition and fees by the published deadline.
Continuing, Fully Admitted Student *An absence is considered to be one full term or more.*	• You may register for classes using SIS on the Web. Your registration time is based on your earned plus your currently registered LBCC credits and is printed in the Schedule of Classes. To determine your earned hours, check your registration status on the SIS. • Pay your tuition and fees by the published deadline.
New, Part-Time, Degree-Seeking, Part-Time Financial Aid Student. *This category does not have priority registration.*	• Complete an application and submit it, along with the $25 application fee, to the Admissions Office in Takena Hall. Note: If you are under 18 years of age, you must provide proof of high school graduation or GED completion. • Register for classes by using the SIS (the Student Information System) on the Web or register at the Registration Counter in Takena Hall. • Pay your tuition and fees by the published deadline.
LBCC/OSU Degree Partnership Program	• For information and an application, visit *www.linnbenton.edu/go/degreepartnership*. Applications are available only online. • Pay application fee online with credit card. • Meet OSU admission requirements.
New, Non-Admitted, Part-Time Student *If you are not admitted and are registering for noncredit classes or for fewer than 12 credits, you are a part-time student.*	• If you have never attended a class at LBCC, complete a Student Data form and submit it to the Admissions Office. (Forms are available on the Web, at the Admissions Office and in the Schedule of Classes.) • If you are registering for a math or writing course, call the Assessment Center (917-4781) to schedule a Computerized Placement Test (CPT). There is a charge of $2 per test.[1] • Wait five days to make sure this information has been entered into our information system. • Register during Open Registration for classes using the SIS system. • Pay your tuition and fees by the published deadline.
Continuing, Non-Admitted, Part-Time Student	• If you are not a fully admitted student but you have taken a class at LBCC in the past, you may register using our SIS registration system during Open Registration. • If SIS won't allow you to register, complete and submit a Student Data form (available in the Admissions Office and in the Schedule of Classes). • Pay your tuition and fees by the published deadline.
English for Speakers of Other Languages (ESOL) *English classes are offered to adults whose first language is not English.*	• Call 917-4710 for information. • Register for and attend the six-hour orientation session. • Pay $25 enrollment fee at the time of course registration.
Adult Basic Skills and GED *Learn basic skills, earn a GED or complete your high school education in these courses.*	• Call 917-4710 for information. • Register for and attend the six-hour orientation session. • Pay $25 enrollment fee at the time of course registration.
Adult High School Diploma	• Call 917-4753 to learn how you can complete your high school education.
Distance Education *www.linnbenton.edu*	• Follow the directions for part-time students or fully admitted students, depending on the number of credits. To receive financial aid, students must be admitted.

[1]Subject to change.

How to Get Started—Admission

Admissions Office/First Stop Center:
Takena Hall 115, (541) 917-4811, or *admissions@linnbenton.edu* **or** *www.linnbenton.edu/go/admissions*

LBCC maintains an "open door" admission policy, meaning that anyone who is at least 18 years old is eligible to enroll in classes regardless of educational background. If you are registering for fewer than 12 credits without financial aid, you do not need to apply for admission and, in most instances, you do not need to take a placement test (there are some exceptions). You may simply register for the desired class at any time during open registration. Before you can receive a certificate or degree, however, you must become admitted.

Whether you choose to be fully admitted or you simply want to enroll in a class or two, it's a good idea to get academic advising from a counselor. The Career and Counseling Center, located on the first floor of Takena Hall, has information about programs and majors, and you can obtain assistance in making decisions about your studies.

Students Seeking Degrees or Certificates

If you're working toward a degree or certificate, if you intend to register for 12 or more credits or if you have applied for financial aid, you must complete the admission process. See page 6 for details. As a fully admitted student, you will be eligible for priority registration and may register as either a full-time or part-time student. Admission is on a first-come, first-served basis. For all programs, the college reserves the right to give higher priority to district residents.

Students *Not* Seeking Degrees or Certificates

If you want to take classes but are not seeking a degree or certificate—or if you are taking fewer than 12 credits per term without financial aid—you don't need to be admitted. You can simply register for your classes any time during open registration. First-time students must submit a Student Data form. Forms are available online or at Registration service counters.

Transfer Students

LBCC accepts college-level credits from regionally accredited colleges and universities. The guide for determining acceptability is *Transfer Credit Practices of Designated Educational Institutions,* published by AACRAO, and *Practices and Accrediting Institutions of Post-secondary Education,* published by ACE.

To transfer credits, have your previous school(s) send Admissions an official transcript and complete a Transfer Credit Evaluation Request form. Evaluations are completed only for admitted students. Evaluations are completed on a first-come, first-served basis. Evaluation results are mailed to you once completed.

If you wish to transfer credits from a foreign college or university, you must have the credits evaluated by an external evaluation service. Contact the Admissions Office for a list of approved credential evaluation services.

International Students

International students must complete the admission process for international students several weeks before the term begins.

Programs for High School Age Students

LBCC continues to expand opportunities for high school age students through partnerships with area public and private high schools. In addition to formal partnerships, LBCC offers a variety of other programs, courses, and activities for high school youth. Two of the formal programs are:

- *Alternative Learning Opportunities*—The student is referred to LBCC by his or her high school and takes classes on campus. For more information, call 917-4753.
- *College Now.* High school students receive college credit for college-level coursework they complete in high school. The courses are taught by high school teachers certified by LBCC. For more information, call 917-4791.
- *Expanded Options*—Expanded Options provides eligible high school students opportunities for early entry into post-secondary education. It also emphasizes specific provisions and priorities for at-risk students and drop outs. See your high school counselor for requirements to be part of the EOP; deadlines may vary.

Please visit this Web site for more opportunities for high school age students: *www.linnbenton.edu/go/highschool-connections*

Students Younger than Age 18

If you're not yet 18, haven't completed high school, and don't hold a GED certificate, you must file an Underage Enrollment form before you can take a credit class. (Forms are available at the Admissions Office/First Stop Center and from high school counselors.) Call 917-4753 for details.

To take a noncredit class, you do not need to submit an Underage Enrollment form, but you do need the instructor's permission. If you are denied by the instructor, you may submit the form to be reconsidered for that specific course. If you're under 18 and want to start taking GED classes, you must provide evidence of release from compulsory attendance or home schooling, or be referred by your high school through use of the Underage Enrollment form.

LBCC/OSU Degree Partnership Program

By completing only one application process, you can enroll at both Linn-Benton Community College and Oregon State University. This not only saves you money and paperwork, it also gives you access to classes and student services at both institutions.

The cost of services at the institution where you currently are taking courses is included in your tuition and enrollment fees; in addition, you can purchase services at the partner institution. If you are taking courses at both institutions, you have access to student fee-based services at LBCC and OSU including OSU's Dixon Recreation Center, Student Health Center, University Counseling and Psychological Services and University Housing.

Financial aid is available to qualified students who are dually admitted. For more information on this program, contact the Admissions Office at either LBCC or OSU, visit the DPP Information Center at LBCC (Takena Hall, T-213), E-mail LBOSUDPP@linnbenton.edu, or visit *www.linnbenton.edu/go/degree-partnership or www.oregonstate.edu/partnerships.*

TRIO Student Support Services

Being the first one from your family to attend college can present some special obstacles to succeeding in college. Grant funding through the U.S. Department of Education has made it possible to offer special assistance for students who are first-generation. The benefits of being involved with TRIO Student Support Services include:

- tutoring in basic courses
- textbook checkout
- assistance with financial aid and scholarship process
- study and support groups
- career exploration
- a study area and lounge
- personal and academic goal setting
- assistance with the transfer process to four-year universities

These services are free to TRIO participants. The services are also provided for students who meet the federal financial eligibility requirements or for those with a documented physical or learning disability. Information and application forms for the TRIO program are available at the Lebanon Center, Sweet Home Center, and Albany campus. Current locations for study and support are at the Lebanon Center in room 211 and at the Albany campus in room HO-116. For more information on how TRIO can help you, contact the Lebanon Center (541) 259-5776 or the Albany Center (541) 917-4993.

Special Admission Programs

Some LBCC programs have stringent admission requirements, which were set to administer the college's resources effectively and to ensure that each student has a reasonable chance of success. These programs include:

- Dental Assisting
- Nursing
- Pharmacy Technician
- Phlebotomy
- Diagnostic Imaging
- Veterinary Technology

Special admission programs often require prerequisite courses or skills assessments. Placement scores used as assessment for special admission programs are valid for five years. For most programs, qualified in-district applicants receive priority in the selection process. (Note: The LBCC district does not include all of Linn and Benton counties.) A student who does not meet a requirement for a special admission program may appeal by filing a petition, available in the Admissions Office. Petitions are reviewed by faculty members, who make recommendations to the Associate Dean of Enrollment Management.

Requirements, application dates and deadlines are subject to annual change. Admission requirements and application materials for each program must be downloaded from *www.linnbenton.edu/go/admission-forms-and-applications* (look under Special Admission Bulletins).

Dental Assistant

The Dental Assistant program is offered once each year, beginning fall term and ending the following summer. To be accepted, you must have your application and transcripts on file by a specified date; supply proof of high school graduation or GED; score at the 60th percentile or better on the reading portion of the Computerized Placement Test (CPT) or successfully complete RD 115 Reading Improvement II, place into WR 121 or complete WR 115 Introduction to College Writing, and score at the 67th percentile or better on the arithmetic test (or successfully complete MTH 020); and attend a career exploration session. It is important that students have excellent computer skills. Students admitted to the program must meet additional requirements prior to the first day of classes. Students are financially responsible for immunizations, lab fees and CPR certification.

Note: Occupational health hazards include wearing masks and latex gloves. Applicants with breathing or skin disorders should meet with the Dental Assistant advisor prior to applying for admission. In addition, dental assisting can intensify carpal tunnel syndrome. Applicants with this condition also should meet with the Dental Assistant advisor prior to applying for admission.

Nursing Admissions for Fall 2008–2009

Applicants for the two-year Nursing program, which begins each fall term, must submit an application, proof of high school graduation or GED, and other college transcripts by a specified date; complete LBCC's Computerized Placement Test; and complete MTH 095 Intermediate Algebra, WR 121 English Composition or higher, BI 231 and BI 232 Human Anatomy and Physiology, and have a valid Oregon CNA license. Eligible applicants are ranked on a point system. See the current Nursing Bulletin for point system information, or visit the Admissions Web site for the current bulletin: *www.linnbenton.edu/go/admissions/forms/nursing*. Students admitted to the program must meet additional departmental requirements prior to the first day of classes. The admission procedure is reviewed annually for the ADN program and therefore subject to change. Students are financially responsible for immunizations, criminal background check and certification fees.

Workforce Training

For special admissions requirements for pharmacy technician, phlebotomy, diagnostic imaging and veterinary technician, see the Workforce Training section under "Programs of Study."

Regional Programs

The LBCC Board of Education has designated the following as Regional Programs, allowing out-of-state students to pay in-state tuition for the first term of their enrollment or set residency preferences based on the region served:

- Agriculture
- Animal Technology
- Animal Technology: Horse Management
- Horticulture
- Nondestructive Testing
- Diagnostic Imaging
- Refrigeration/Heating/Ventilation/Air Conditioning
- Water/Wastewater Technology

How to Get Started—Registration

Registration Office:
Takena Hall 115, (541) 917-4812

To Register for Classes

If you are a continuing, fully admitted student, you will be assigned an early registration time each term based on the number of credits you have earned at LBCC plus your currently registered LBCC credits. See the quarterly Schedule of Classes for registration times and information about the registration process.

Pre-registration advisor conferences are recommended for the following students:

- all new students;
- students sponsored by agencies;
- students on probation or having academic difficulties;
- students who are changing their major or who have questions regarding the courses they should take to meet program requirements.
- transfer students in transfer programs
- students considering application to special admissions programs

Non-admitted students can register for 0–11 credits during open registration times. You will be asked to use your Social Security number as your initial student identification number. A student ID will be generated for you. You may view this number on SIS.

Wait List Procedures

If a particular class is full, you may be put on a Wait List if one is available or if the Wait List is not full. Please be aware that you are charged tuition for a Wait List registration. You will not be charged if you have not been registered by the add deadline.

Prior to the first day of class, students are moved from the Wait List to registered status as space becomes available. To find out whether you have achieved "registered" status, you may view your registration status on the SIS or contact the instructor at the first class session.

During the Add period, an instructor can add you from the Wait List to the class by signing a Schedule Change form (also called an Add/Drop form), which you must then submit to Registration before the Add deadline. Late registrations are subject to a $25 fee. Instructors may drop you from the Wait List if you do not attend the first day of the first class. If you are still on the Wait List on the last day of the Add period, you will be dropped from the Wait List and your tuition for that class will be refunded if a refund is due. Refunds are made after the Add/Drop period is over.

How to Understand Course Numbers

All credit courses, whether lower-division transfer or professional technical, are taught on a college level.

Courses with letter prefixes and numbers of 100 or higher (for example, WR 121, BI 103, MTH 111) usually transfer to a four-year college or university. Courses numbered 100–199 are considered freshman-level courses, and those numbered 200–299 are sophomore level.

Letter-prefix courses that have numbers below 100 or numbers that include a decimal point (for example, MTH 065 or BA 2.530) generally will not transfer to a four-year institution. However, there are some exceptions; see your advisor concerning transferability.

You are not limited to taking all transfer or all professional technical classes; you may mix and match them depending on your program. Consult your advisor.

If a course number is changed from a professional technical number to a transfer level number, the transfer level number will appear on your permanent record *only if you took the class after the change was approved.*

Prerequisites

Many courses require that you complete other courses prior to enrolling in them. Make sure you check the "Course Description" section of this catalog for prerequisites before you register. If you are uncertain about whether you have met a specific prerequisite, ask your advisor or the instructor of that class. If you have not met the prerequisite, you may be withdrawn from the course.

If you have completed an LBCC class with a grade of "C" or better, then take a class that is clearly identified as a prerequisite to it, the credits will not count for graduation. If you register for credit in such a course, you may be disenrolled. Any exceptions must be authorized in writing to the registrar by the appropriate faculty member and dean or designee.

To Change Your Schedule

To change your schedule in any way, you may use the SIS on the Web or submit a Schedule Change at the Registration Office. For classes that require an instructor's signature, you must submit a Schedule Change at the Registration Office.

During the first week of the term, you must have the instructor's written permission to add a course that is full. Registration deadlines for shorter classes are printed in the schedule.

If you are changing to another section of a course—whether for cancellation of the class or for any other reason—you must fill out a Schedule Change form.

You have until the end of the seventh week of each term to officially withdraw from a full-term class and earn a "W" grade. Withdrawal deadlines for shorter classes are printed in the schedule.

To Audit a Class

If you want to audit a class (take it without receiving credit) you can request audit status either at the time you register or during the Add period for that class. Instructors reserve the right to disenroll students who do not have the prerequisite for the course they want to audit. The fees for auditing are the same as for regular enrollment. You are encouraged to discuss your learning goals for the class with the instructor prior to selecting the audit grade option. Auditing students are not required to complete course requirements for a letter grade, but are expected to fully participate in class activities. The instructor is under no obligation to grade or record the student's work. An "AU" grade will be recorded on the transcript.

Academic Information and Regulations

Academic Calendar

The college operates on a term system (also called a quarter system). Fall term begins in late September and ends before Christmas. Winter term begins in early January and runs until mid-March, and spring term begins in late March and ends in mid-June. The summer term runs from late June until late August.

Credit Hours and Credit Loads

Generally speaking, a class that meets one hour a week for one term will yield one credit; a class that meets three hours per week will yield three credits. A lab class usually yields one credit for each two or three hours of lab time.

If you are employed while you attend college, bear in mind that most classes require one or two hours of preparation for each class hour. In our program descriptions, we suggest curricula that will allow you to complete the program in one or two years; if you are working, you may need to extend that timeline. To earn a transfer degree in two years, you should schedule an average of 15 credits per term to accumulate 90 credits in six terms. You may take no more than 20 credits in any single term without a counselor's approval. The time required to complete a program may vary according to your preparation when you enter school and the availability of classes.

Grading System

A Excellent work; 4 quality points per credit.
B Above average work; 3 quality points per credit.
C Average work; 2 quality points per credit.
D Below average work; 1 quality point per credit.
F Failing work; 0 quality points per credit.
IN Incomplete work (not computed in GPA).
P Pass, credit earned (not computed in GPA).
W Withdrawal; no credit earned (not computed in GPA).
Y Amount of submitted coursework and of class participation was too insignificant to warrant assigning a grade, as defined in the course syllabus (not computed in GPA).
NP No pass; no credit earned (not computed in GPA).
WP Work in Progress; no credit earned (not computed in GPA).
AU Audit; no credit earned (not computed in GPA).
R Repeated; followed by original grade (not computed in GPA).

Grade Point Average (GPA) is calculated by dividing total quality points by total hours. (Grades not included in GPA are IN, W, Y, P, NP, WP, AU and repeated grades preceded by R.) Transcripts show current GPA (one term) and cumulative GPA (all classes taken at LBCC). You can obtain your grades via SIS.

Honor Roll

If you obtain a grade point average of 3.50 or better with no incompletes and have completed a 12-credit load or more of graded LBCC classwork (not including P/NP), you are placed on the Honor Roll list for that quarter.

Immunizations

The Oregon College Immunization Law requires that community college students born on or after Jan. 1, 1957 and in the allied health, intercollegiate sports or early childhood education program receive two doses of measles vaccinations.

Academic Probation and Suspension

Any student registered for 12 or more credits after the second week of the term is subject to academic standards rules.

If your cumulative grade point average drops below 2.00 or you complete less than 50 percent of the credits you were registered for, you may be placed on academic probation. To continue in a program, you must maintain a grade point average of at least 2.00 in all specific major requirements. Some programs have more restrictive requirements; see the program descriptions in this catalog. If you drop under this requirement, you may petition the department for reinstatement.

If you have been on academic probation for three consecutive terms, you are subject to suspension. Students on suspension are limited to enrolling in a maximum of seven credits. You may petition to be removed from suspension by completing a Suspension Appeal Petition, available in the Admissions Office/First Stop Center.

Students also are expected to complete the courses for which they register. If you are a full-time student, you may be placed on academic warning, probation or suspension for non-completion of 50 percent of the credits for which you registered.

Repeating a Class

In general, you cannot repeat a class for additional credit. Exceptions are noted under the individual course descriptions section of this catalog. Any course completed with a grade below a "C" may be repeated for grade replacement and GPA recalculation. Any course completed with a grade of a "B" or "C" may be repeated once for grade replacement and GPA recalculation. Any replacement grade will replace all previous grades for that course number. Any grade replaced will be preceded by an "R" on the transcript and removed from credit and GPA totals. Any student desiring a grade replacement for GPA recalculation must initiate the process by filing a request form at the Registration Office.

Pass/No-Pass Option

A course designation of "OPT" indicates that you have the option of taking the course for a letter grade or on a pass/no-pass (P/NP) basis. It is your responsibility to check the class schedule to determine whether a class has the P/NP option. Requests for "P" grades may be processed through the Registration Office or through the instructor. It is not advisable to choose the "P" grade for major coursework in your field of study. If you are planning to transfer to a four-year institution, you should check that institution's requirements regarding "P" grades. The maximum number of "P" credits allowed toward a degree is 16, not including those with an obligatory "P" grade.

Incomplete Rule

If you take an incomplete in a class, you must complete the coursework by the end of the following term. (Students completing work for a spring term class have until the end of fall term.) If you fail to complete the work, you will receive a default grade. "IN" grades normally are not awarded in variable credit classes.

Graduation: Standards of Progress

See the "Graduation Requirements" section of this catalog.

Withdrawing from School

If you find you can no longer attend classes, you should officially withdraw from school. Students who withdraw within the refund period may expect a tuition refund. A grade of "W" will not be recorded if the withdrawal is processed before the deadline (generally, the first two weeks of the quarter). A grade of "W" will be recorded for classes dropped after the refund period and before the withdrawal deadline. (See "Refunds" and "Withdrawal Deadlines" in the Schedule of Classes.)

Transferring LBCC Credits

Lower-division credits can be transferred from LBCC to most colleges throughout the United States. Lower-division students may transfer up to 124 credit hours to schools in the Oregon University System. If you are planning to transfer credits to another college or university, you are encouraged to work with an LBCC advisor in planning an appropriate transfer program. It is also recommended that you coordinate your plan with that institution.

Credit for Nontraditional Learning

If you believe you already have mastered the material presented in a course listed on LBCC's Course Challenge List, you can stop by the Student Assessment Center and apply for *Credit by Examination*.

To apply, you must be currently enrolled in a credit class or you must have completed 12 credits at LBCC. You must submit your application by the end of the second week of a term, and you must complete the examination by the end of the seventh week of that same term.

Before you take the exam, you must pay a nonrefundable processing fee consisting of 30 percent of the tuition per challenged course per credit hour. An additional testing fee may be required.

For details about Credit by Examination, stop by the Student Assessment Center or call (541) 917-4781.

College Level Examination Program

LBCC is an approved center for administration of the College Level Examination Program (CLEP). In addition, LBCC accepts most CLEP scores for college credit, which may be posted to transcripts under "advanced standing." CLEP examinations are administered through the Student Assessment Center. For a list of tests accepted at LBCC, stop by the Assessment Center or call (541) 917-4781.

Advanced Placement Tests

Students who complete college-level work in high school under the Advanced Placement Program sponsored by the College Entrance Examination Board and who receive satisfactory grades (3, 4 or 5) on examinations administered by the board may, upon admission, be granted comparable credit toward a degree. All examinations are subject to review and approval by the appropriate college division. Students must request that official Advanced Placement scores be forwarded to the Admissions Office. For further information, contact the Admissions Office/First Stop Center.

Student Educational Records

Transcripts and Records

LBCC official student transcripts may be ordered in the Registration Office, at the centers, by fax or by mail. Transcripts cost $5 for the first copy and $1 for each additional copy ordered at the same time, regardless of whether they are official or unofficial. Unofficial transcripts can be obtained from the SIS for free. (These fees are subject to change.) It takes up to five business days to process a transcript order. Rush orders

Tuition and Fees Schedule (Please see notes below)

Classes Taken for Credit

Residency	Credit Tuition	Student Activity Fee	Technology Fee	Total Tuition & Fees
In-state (OR, CA, ID, WA, NV) per credit	$60.79	$2.21	$2.00	$65.00
Out-of-state (except OR, CA, ID, WA, NV) per credit	$161.79	$2.21	$2.00	$166.00
Foreign/International per credit	$179.79	$2.21	$2.00	$184.00

Non-Credit Classes
The tuition for non-credit classes is based on the number of hours an instructor is provided.
The charge is listed with each class in the printed Schedule of Classes.

Special Fees
Application for Admission: $25 (included Placement Test)
Photo ID Card: $10
Placement Test (CPT): Varies (see www.linnbenton.edu/go/student-assessment for current fees)
Official Copy of LBCC Transcript: $5 for first copy; $1 for each additional copies ordered at the same time
Unofficial Copy of LBCC Transcript: $5 for first copy; $1 for each additional copies ordered at the same time; free from SIS
Physical Education Activity Fees (some courses): Varies

- Faxed transcripts are an additional $1; additional $10 for processing in less than five business days.
- Tuition and fees are subject to change by the LBCC Board of Education.
- To qualify for in-state tuition rates, you must be an American citizen or immigrant, and permanent resident of Oregon, California, Idaho, Nevada or Washington.
- You must pay out-of-state tuition rates if your permanent residence is outside the states of Oregon, California, Idaho, Nevada or Washington.
- Foreign/International-You must pay international tuition rates if you are a citizen of another country and require an I-20 to attend college. International students do not become residents, regardless of the length of their residency within the state.

(guaranteed processing in less than 5 days) cost $10 each. There is an additional $1 charge to have a transcript faxed. Students have access to transcripts and records as outlined in "The Student Records and Disclosure of Student Records Policy 7071."

Official records belonging to a student who has failed to make an installment tuition payment, repay an emergency loan, or other debt or obligation to the college will not be released, either to the student or another institution, as long as the obligation is outstanding.

Records Information

Linn-Benton Community College follows the Federal Health Education and Welfare Guidelines for the Family Educational Rights and Privacy Act of 1974 as amended (Pell-Buckley amendment) and the Oregon Administrative Rules regarding Privacy Rights and Information Reporting in Community Colleges in regard to educational records.

Federal legislation gives students the right to inspect and review their educational records as defined in LBCC Board Policy # 7071. If you believe your records contain information that is inaccurate, misleading or in violation of your rights, you may ask the college to amend the record. If the college denies this request, you will be informed of this decision and of your right to a hearing. Further, you may file a complaint with the U.S. Department of Education by contacting the Family Policy and Regulations Office, U.S. Department of Education, Washington, D.C. 20202.

Directory Information

In accordance with the Family Educational Rights and Privacy Act, LBCC considers the following to be directory, therefore public, information: student's name, address and telephone listing; major field of study; participation in officially recognized activities and sports; weight and height of athletic team members; dates of enrollment; enrollment status; school or division of enrollment; and degrees and awards received.

If you do not want the above information released by the college, you must file a Directory Deletion form at the Registration Office *by the time you register.* Information will not be released except to the extent the Oregon Administrative Rules allow disclosure without consent (for example, in cases of a federal audit).

Social Security Number

OAR 559-004-0400 authorizes Linn-Benton Community College to ask you to provide your Social Security number. The number will be used by the college for reporting, research, and record keeping. Your number will also be provided by the college to the Oregon Community College Unified Reporting System (OCCURS), which is a group made up of all community colleges in Oregon, the State Department of Community Colleges and Workforce Development and the Oregon Community College Association. OCCURS gathers information about students and programs to meet state and federal reporting requirements. It also helps colleges plan, research, and develop programs. This information helps the colleges to support the progress of students and their success in the workplace and other education programs.

OCCURS or the college may provide your Social Security number to the following agencies or match it with records from the following systems:

- State and private universities, colleges, and vocational schools, to find out how many community college students go on with their education and to find out whether community college courses are a good basis for further education;

- The Oregon Employment Department, which gathers information, including employment and earnings, to help state and local agencies plan education and training services to help Oregon citizens get the best jobs available;
- The Oregon Department of Education, to provide reports to local, state and federal governments. The information is used to learn about education, training, and job market trends for planning, research, and program improvement.
- The Oregon Department of Revenue and collection agencies only for purposes of processing debts and only if credit is extended to you by the college.
- The Internal Revenue Service for 1098T reporting.
- The College Board, if you take the Accuplacer Placement test, for educational research purposes.

State and federal law protects the privacy of your records. Your number will be used only for the purposes listed above.

Student Rights, Responsibilities and Conduct

The college's board of education has established policy relating to student rights, freedoms, responsibilities and due process. This policy outlines the rules for student conduct and describes the procedures for due process and for filing a complaint. You can obtain a copy of the policy from the Dean of Student Services in Takena Hall 107 or on the college Web site at *www.linnbenton.edu/go/studentrights*.

Students in the LBCC/OSU Dual Enrollment Program are held accountable to conduct standards at both institutions. LBCC and OSU may each intervene in cases of misconduct, particularly in issues involving health and safety. Students are given opportunity for due process; those found in violation of conduct codes may receive sanctions from each institution. Linn-Benton Community College and Oregon State University reserve the option to decide that only one institution will process a case of misconduct.

Student Consumerism Information

In accordance with 34 CFR Part 668, you have the right to know certain information about LBCC, including a variety of academic information, financial assistance information, institutional information, information on completion or graduation rates, institutional security policies and crime statistics, athletic program participation rates and financial support data. See *http://www.linnbenton.edu/go/about-lbcc/policies/student-right-to-know* for details on where to find this information.

Tuition and Fees

The amount of tuition you pay is determined by your residency and by the number of credit hours you are taking. The chart on page 11 will help you determine the amount of tuition you owe. You should be aware that some classes charge a fee in addition to tuition.

Residency Policy

Tuition rates and fee schedules differ for students who reside in Oregon, students who do not live within the state or bordering states, and for international students. You pay resident tuition if you have lived in Oregon for at least 90 continuous days immediately preceding the term and can demonstrate your intent to establish a permanent home, or if you have been granted asylum or are a refugee, an immigrant or a permanent resident of California, Idaho, Washington or Nevada. For detailed information and a list of acceptable documents to show proof of residency, contact the Associate Dean of Enrollment Management in Takena Hall, 917-4811.

In addition, the LBCC Board of Education has designated some programs as Regional Programs, allowing out-of-state students to pay in-state tuition for the first term of their enrollment. (These courses are listed under Regional Programs, page 8.) For subsequent terms, these students must establish and meet LBCC's residency requirements to qualify for in-state tuition.

Student Activity and Program Fee

Each student is assessed $2.21 per credit as a student activity and program fee. Income derived from the fee supports extracurricular activities and programs, including athletics, artist and lecturer guest appearances, clubs and organizations, and a variety of recreational and social activities. More information is available at the Student Life and Leadership Office in the Student Union. Note: These fees are subject to change. OSU Degree Partnership students may pay a DPP student services fee if not registered for credit classes at LBCC. Payment of this fee allows their ID card to be validated and gives them access to all LBCC services.

Lab and Materials Fees Refunds

Refunds of lab and materials fees vary from course to course and may not be refunded.

Student Costs

Individual costs vary according to course of study, transportation requirements, housing and other factors. Here are some examples of average costs for nine months (three terms):

Single (Living with Parents)	**Average Cost***
Tuition & Fees	$2,730
Books & Supplies	$1,200
Living Expenses	$4431
Single (Not Living with Parents)	**Average Cost***
Tuition & Fees	$2,730
Books & Supplies	$1,200
Living Expenses	$8,670

*Tuition estimates are provided here so total costs can be compared. Tuition and fees for the 2007-08 school year had not been established at the time this catalog was published. Current tuition rates may be found in the quarterly schedule of classes or at www.linnbenton.edu/go/tuitionandfees. Additional tuition charges are assessed for nonresident and foreign students. Books and supply costs vary greatly.

Tuition Refunds

To receive a tuition refund, you must drop a full-term course using the SIS or submit a Schedule Change form to the Registration Office within the first two weeks of the class. You may petition for a refund after the deadline if "serious and compelling" circumstances beyond your control were significant enough to prevent you from dropping within the refund period. Refund deadlines for shorter classes are printed in the Schedule of Classes. Refunds are mailed after the second week of classes. If a class is cancelled by the college, you will receive either a full refund or, if you prefer, enrollment in another class. If you choose to enroll in another class, you may use the SIS system or submit a Schedule Change Form to the Registration Office.

Financial Aid

Director of Financial Aid:
Takena Hall 117, (541) 917-4850

Financial aid at LBCC provides an opportunity for students to attend college who cannot pay the full cost of a college education. Funds are intended to supplement family and student resources through loans, grants and/or part-time employment. At the Financial Aid Office, you

can obtain information regarding the availability of financial aid, eligibility requirements and application procedures. Certification and administration of veterans' educational benefits also are provided through this office.

Student Eligibility Requirements

You may be eligible for financial aid if you:

- are an admitted and enrolled student, whether full- or part-time;
- are enrolled in an eligible program at least one year in length that leads to a degree or certificate (some exceptions apply);
- have registered with the Selective Service (if required to do so);
- have a high school diploma or GED (some exceptions apply);
- are not attending an elementary or secondary school;
- are a United States citizen or an eligible noncitizen;
- are not in default of any federal loan program; and
- do not owe a refund on any federal grant program.

For the Federal Stafford, PLUS and Perkins Loan programs, you must be enrolled at least half time (six credit hours).

For a Pell Grant, you must be a fully admitted, degree-seeking student enrolled in one or more credit hours.

Program Eligibility Requirements

Eligible programs need to be at least one year in length (some exceptions apply) and must lead to a degree or certificate. Eligible one-year programs must provide training to prepare students for "recognized occupations" as defined in the Dictionary of Occupational Titles.

Two-year programs that are acceptable for full credit toward a baccalaureate degree also are eligible, even if they do not offer degrees.

Accelerated Certificate Training Programs

The U.S. Department of Education has certified several accelerated certificate training programs (defined as less than one year in length) as eligible to participate in federal student aid programs. Students may be eligible to participate in the Pell Grant and Stafford Loan programs. Annual grant and loan limits are prorated based on the length of the programs. The accelerated certificate training programs *are not* eligible for the Oregon Opportunity Grant. The approved programs are:

- Pharmacy Technician
- Phlebotomy Technician
- Radiologic Technology
- Veterinary Technology

Application Procedures

Before you can be considered for financial aid, you must be admitted to LBCC (even if you are attending less than full time). Contact the Admissions Office in Takena Hall for information regarding admission.

You may apply for aid at any time throughout the year; however, financial aid funds are limited. If you apply after April 1, you may find that some programs no longer have funds.

If you are applying for a federal or state grant, a work program or loan, you must complete a Free Application for Federal Student Aid (FAFSA) application form. LBCC uses the FAFSA to determine the amount a family and student can contribute to the cost of a college education. The use of this federally approved aid application assures every applicant fair and consistent treatment. Application forms are available from the LBCC Financial Aid Office, from high school counselors or agency personnel, and on the Internet at *www.fafsa.ed.gov.*

You, the applicant, must complete the application form and mail or electronically send it to the FAFSA Central Processor, who then forwards the information. This process takes three to four weeks. No processing fee is charged.

After LBCC receives the FAFSA data electronically from the Central Processor, our financial aid staff will begin determining your eligibility for aid. They may ask you for additional information such as proof of independence, tax forms or information regarding aid received at other institutions. This review process takes two to six weeks. You will be notified by mail concerning your eligibility. Allow 8 to 10 weeks for the entire process from application to award. Pell Grant Student Aid Reports (SAR) are sent only to the student.

Transfer Students

Transfer students applying for federal financial aid must have their prior college credits transferred to the Registrar's Office at LBCC and request a transfer credit evaluation.

Academic Standards and Eligibility

To receive financial aid, you must fulfill the standards of satisfactory academic progress as outlined in the financial aid brochure and the award letter. Additionally, if you are not in good standing with the institution (i.e., if you are on academic or disciplinary suspension), you will not be eligible for further aid or certification until you have been removed from suspension. A hard copy of this Financial Aid Satisfactory Academic Progress policy will be distributed to every financial aid recipient with their initial LBCC Award Letter. This policy will also be posted to the Financial Aid Web page at *www.linnbenton.edu/go/financial-aid* in the "Academic Standards" area. Hard copies of this policy will also be readily available at the Financial Aid Office for anyone requesting a copy.

Financial Aid Disbursement Policy

Financial aid is mailed to students or direct deposited to a student's bank account after the add/drop period (second week) of each term. Typically, this means aid monies are received during the third week of each term. Before financial assistance can be disbursed, you must:

- sign and return to the Financial Aid Office an "Agreement Form"
- enroll for six (6) or more credit hours (except for Pell Grants)
- maintain satisfactory academic progress.

Note: If your aid was based on full-time attendance and you elect to register for fewer credit hours, your financial aid must be adjusted to reflect the reduction in course load. Generally, this will result in a reduction of and a delay in the aid you are eligible to receive.

Students admitted into the LBCC/OSU Degree Partnership Program may have their credit hours taken at both schools combined to determine their eligibility for federal, state and institutional financial aid. For more information regarding the program, contact LBCC's Financial Aid Office, or OSU's Financial Aid office at (541) 737-2241 or Fax (541) 737-4494 or go to *www.linnbenton.edu/go/degree-partnership.*

Withdrawal Information

U.S. Department of Education regulations mandate that federal financial aid recipients "earn" their aid by attending and participating in class. Recipients cannot earn all of their aid funds unless they maintain attendance and class participation for more than 60 percent of each term they receive aid.

Students that completely withdraw from or stop attending all classes before 61 percent of the term has expired have not earned all their aid and will be required to repay some or all of the aid disbursed to them. The percent of funds that was not earned is the same as the percent of the term not attended. The college also is required to return the funds we deducted from your financial aid for tuition and fees (institutional charges) at the same percentage rate. Example: If you attend only 59 percent of the term, then you did not earn 41 percent of your financial

aid, and it must be repaid. In addition, the college must return 41 percent of your tuition and fees. You must repay the college 41 percent of your tuition and fees that it was required to return to the federal government. You will not be permitted to re-enroll at LBCC until this amount is paid in full. Federal aid that the college is required to return for "unearned" tuition and fees will be returned to financial aid programs that you received aid from in the following order:

- Unsubsidized Stafford Loan
- Subsidized Stafford Loan
- Federal Perkins Loan
- Stafford PLUS Loan
- Federal Pell Grant
- Federal SEOG Grant
- Other federal financial aid programs, excluding Federal Work Study

You can repay federal loans under the terms and conditions of the promissory note for the loan. However, a grant repayment must be repaid within 45 days. If the grant repayment has not been repaid in full within 45 days, the college will forward the debt to the U.S. Department of Education for collection. You will not be permitted to re-enroll at LBCC nor will you be eligible to receive federal financial aid (including loans) from any higher education institution in the country until the grant has been repaid. For a complete copy of the federal aid repayment policy or if you have any questions, please contact the LBCC Financial Aid Office.

Veterans Affairs

Veterans Affairs Office:
Takena Hall 117, (541) 917-4858

The Veterans Affairs coordinator is an LBCC staff member who provides assistance to veteran students and eligible dependents regarding college-related matters. A list of courses approved for benefits is available, as well as information regarding certification and general payment policies. The coordinator will help veterans and eligible dependents apply for benefits and will provide academic advising, counseling and referral assistance. The VA coordinator is located in the Financial Aid Office.

Standards of Satisfactory Progress for Students Receiving Veterans' Benefits

Students receiving VA benefits are responsible for demonstrating satisfactory progress toward a degree or certificate in a VA-approved program of study. The VA will pay only for classes that advance students toward their established program goals.

Admission and Evaluation of Prior Credit

Veterans must become fully admitted students (see page 6 for definition). For information on how to apply for admission, look under "Admission" in the front of this catalog.

Grades

Satisfactory grades are "A," "B," "C," "D" and "P." All noncompletion grades ("Y," "W," "WP" and "IN") that reduce the student's total credits to less than the original certification amount are reported to the VA; any benefits that have already been paid for such courses must be repaid to the VA. The VA may deduct overpayments from future benefits. A course in which you receive an "F" may be retaken with benefits only if that specific course is required for graduation. The VA allows one year for "IN" grades to be completed; failure to complete an "IN" within one year may result in an automatic reduction of benefits. However, college policy requires incompletes to be made up within one term.

Variable Credit Classes

You may be certified for all the credits of a variable credit class; however, failure to complete all the credits for which you are certified results in an overpayment of benefits.

Grade Point Average

A cumulative GPA of 2.00 is the minimum acceptable GPA necessary to qualify for any degree, diploma or training certificate from LBCC.

Unsatisfactory Progress

You will be notified of unsatisfactory progress at the end of any term in which you fail to meet minimum standards. A probation letter is sent to any student whose cumulative GPA falls below 2.00. A termination of benefits letter is sent to students who fail to bring their cumulative GPA above 2.00 for a second consecutive term. To qualify for graduation, you must complete 70 percent of all classes attempted. Therefore, if your total coursework consists of more than 30 percent "Y," "F" and "NP" grades, you will receive a probation or termination letter. Failure to complete any of the courses attempted in one term may result in immediate termination of benefits (e.g., "attempted 12 credits, completed none").

Reinstatement of VA Benefits

To re-establish VA benefits following unsatisfactory progress, you may:

1. continue without benefits until the unsatisfactory progress has been corrected; benefits then will be reinstated to include the unpaid period of attendance; or
2. submit the following to the LBCC Veterans Affairs Office—
 - a letter from an LBCC guidance counselor addressing the reasons for unsatisfactory progress and an assessment of the student's potential to correct academic problems; and
 - a statement explaining reasons for the unsatisfactory progress and how any reoccurrence will be avoided.

Changes in Course Scheduling

You are responsible for notifying the LBCC Veterans Affairs Office of any change in courses attempted or credit load (adds, drops, cancelled classes or withdrawal from classes). Failure to do so immediately may result in unnecessary overpayments that must be repaid or deducted from future benefits.

Financial Aid Programs and Sources

	Eligibility Requirements	Amounts Available	Special Information
GRANTS			
Federal Pell Grants	• You must not have a bachelor's degree. • Fully admitted, degree-seeking students enrolled for one or more credits may be eligible.	• Amounts are based on financial need. • Awards usually range from $400 to $4,310.	• The Department of Education will send you a Student Aid Report (SAR) indicating your eligibility.
Oregon Opportunity Grants	• You must be a resident of the state of Oregon. • You also complete and submit the FAFSA. • You must be enrolled at lease half time and not have earned a bachelor's degree.	• Currently $466 per term; annual maximum is $1,398. Future amounts to be determined by state legislature. • Part-time awards will be half of full-time awards.	• Oregon Opportunity Grants are transferrable to other Oregon institutions and are renewable for a maximum of 12 quarters. • Amounts are awarded by Oregon Student Assistance Commission. • Grant is not available for summer terms.
Federal Supplemental Educational Opportunity Grants (SEOG)	• You must not have a bachelor's degree. • You must prove an exceptional financial need.	• $220 per term of attendance. • $660 total for the year.	• SEOG is linked with Pell Grant eligibility.
Federal Academic Competitiveness Grant (ACG)	• You must not have a bachelor's degree. • You must be fully admitted, degree seeking, Pell eligible, enrolled full time.	• Award amounts are up to $750 for the first year. • Award amounts are up to $1,300 for the second year.	• You must have graduated from high school after Jan. 1, 2005 • You must be a U.S. citizen and have completed a rigorous high school program of study.
WORK STUDY			
Federal Work Study Program	• Undergraduate students and students who have bachelor's degrees are eligible to participate.	• Students are paid current minimum wage for work performed. Higher wages are paid to returning student workers and for jobs requiring certain skills.	• Employment during the school term may not exceed 20 hours per week. • When possible, the student is placed in a job compatible with his or her career goal.
STUDENT LOANS			
Several different student loans are available. However, THEY ALL REQUIRE REPAYMENT. Think before you borrow, and borrow only what you need for educational expenses; convenience now may result in financial hardship later. Failure to repay student loans will result in a damaged credit rating and make credit difficult to obtain in the future.			
Federal Perkins Loans	• Eligibility is based upon need, other resources and availability of funds. • Students who have bachelor's degrees are eligible to participate in this program.	• Typically, the college awards a maximum of $1,100 per term of attendance. $3,300 maximum per year. • The aggregate maximum for a 2-year student is $8,000 (this includes Perkins Loans from previously attended schools).	• You must apply through the FAFSA. • The Perkins Loan is a federally supported loan program provided by the college to needy students. • Loan repayment and interest charges of 5 percent begin nine months after you cease to be enrolled half time. • Additional information is available at the Financial Aid Office.

Warning! If you receive federal and/or state aid based on inaccurate information, you will have to pay it back; you also may have to pay fines and fees. If you purposely give false or misleading information on any documents used to determine your aid eligibility, you may be fined $20,000, sent to prison, or both.

	Eligibility Requirements	Amounts Available	Special Information
STUDENT LOANS–CONT.			
Federal Stafford Student Loans	• Eligibility is determined by the FAFSA.	• Loans of up to $3,500 per year are available to first-year students through local banks. • Students in the second year of their programs (45+ credits) may borrow up to $4,500 per academic year. • The aggregate maximum amount for Federal Subsidized Stafford Loans for undergraduates is $23,000.	• You must first apply for a Pell Grant by completing the FAFSA. • A separate application is required for this program. • You are strongly encouraged to apply for grants administered by the state aid agencies in your state of legal residence. • Nonresidents may pick up the addresses of their state grant programs from LBCC's Financial Aid Office. • At the time of application, you may be charged a 3 percent origination fee and a 1 percent insurance premium fee. • The interest rate on a Federal Stafford Loan is fixed at 6.8 percent. • Loan repayment and interest charges begin six months after you cease to be enrolled at least half time.

Federal regulations require that subsequent loan disbursements be returned to the lender if at any time you enroll for and complete less than six (6) credit hours during the period of the loan as indicated on your Stafford Loan application. Your loan application will be voided, and you must start the loan application process over again.

Unsubsidized Federal Stafford Student Loans	• Students who are not eligible for subsidized Federal Stafford Loans are eligible for unsubsidized loans, regardless of need.	• Up to $4,000 yearly. • Students may borrow up to the same limits as their Federal Stafford Loan limits less any subsidized loan received.	• Loan conditions are similar to the subsidized Federal Stafford Loan except that the borrower is responsible for the interest on the loan while attending school.
Federal Plus Loans	• These loans are available to parents of dependent undergraduate students regardless of need. • Loans are limited to parent borrowers who have "no adverse credit history." • FAFSA must be filed.	• Parents may borrow up to the difference between the student's estimated cost of attendance and any financial assistance annually for each dependent student. • There is no longer an aggregate maximum under this program. • The amount of Federal PLUS is limited by the amount of other aid the student receives. The loan amount cannot exceed the difference between the cost of attendance and estimated financial assistance.	• Your FAFSA aid application must be completed and processed before your eligibility for the PLUS Loan can be determined. • Federal PLUS loans may be used to substitute for the family contribution. • Federal PLUS loan checks are co-payable to the parent and the school and must be disbursed in at least two installments. • Interest is fixed at 8.5 percent. • There is no federal interest subsidy on PLUS Loans. However the lender may charge the borrower an up-front fee of up to 3 percent to offset the federal government's cost of the program. • Repayment of principle and interest begins 60 days after disbursement; if the parent borrower qualifies for a deferment, repayment of principle only is deferred. Interest must be paid unless it is capitalized by the lender. • Applications available at Financial Aid Office.
Eldon Schafer Student Loan Fund	• Provides loans to students with short-term needs.	• Students may borrow up to $200 beginning the first day of the term through the ninth week of the term.	• No loans will be made during final exam week or between terms. Only one loan per student per term is permitted. • A $5 loan fee is charged. • Loans must be repaid by the end of the seventh week of the term. • Applications are available at the Business Office.

	Eligibility Requirements	Amounts Available	Special Information
SCHOLARSHIPS/OTHER			
Scholarships	• Determined by donor	• Determined by donor	• Scholarship information is available from the Financial Aid office and its Web site: *www.linnbenton.edu/sservices/finaid*
Talent Grants	• You must demonstrate an outstanding ability in athletics, drama, journalism, agriculture or business.	• Full or partial tuition awards are made available to high school seniors and other prospective students.	• Interested students should contact appropriate LBCC division offices.
Program Grants	• Awarded to new full-time students. • You must have at least a 2.00 GPA from your last high school, two letters of reference, and attend LBCC full time during the term for which the award is granted. • Students who are undecided in programs of less than one year in length or intend to pursue an Associate of General Studies degree cannot be considered.	• One-term, full and partial tuition grants are available.	• Interested students should contact LBCC division offices for more information and an application. • Students may not receive Board or Talent Awards in addition to Program Grants during the same term. • Not renewable.
Tuition Reduction for the Unemployed	• District residents who attend part time and are unemployed are eligible to apply.	• 50 percent tuition reduction for up to six credits of enrollment.	• Application available at Registration Office and Extended Learning centers.
Golden Age Program	• Oregon residents 62 years of age or older are eligible.	• 50 percent tuition reduction.	• Inquire at time of registration for classes at main campus or Extended Learning centers.
GED Tuition Waiver	• Students who complete 12 hours of GED prep classes within 3 consecutive terms at LBCC and who successfully complete their GED will be offered this waiver.	• Waiver of tuition of up to 7 credits within 4 terms of successful completion of attendance and GED requirements.	• Form available from GED faculty.
Career Information System (CIS) Aid Sort	• Computer program identifies thousands of national, state and local sources of scholarships, loans and other awards.	• Amount varies.	• Call the Career Center, (541)917-4780, for an appointment at the computer to use AID SORT.

IMPORTANT WEBSITES	
www.linnbenton.edu	LBCC's homepage
www.linnbenton.edu/go/financial-aid	LBCC's Financial Aid homepage
www.linnbenton.edu/go/scholarships	LBCC scholarship information
www.fafsa.ed.gov	Electronic version of the Free Application for Federal Aid (FAFSA)
www.fastweb.com	Free electronic scholarship search with a database containing over 400,000 scholarships and grants
www.osac.state.or.us	Oregon Student Assistance Commission. Private listing of nearly 200 private scholarships and grants
www.finaid.org	Excellent site! Comprehensive collection of student financial aid information

Student Services—Academic Support

Admissions/First Stop Center

Takena Hall 115, (541) 917-4811, admissions@linnbenton.edu, www.linnbenton.edu/go/admissions

The First Stop Center in Takena Hall welcomes students and community members and provides a central location for obtaining information and directions. The center's major goals are to reduce students' frustration in dealing with institutional processes and to increase their awareness of the many campus-wide services. The First Stop Center includes the Admissions Office.

Student ID Card

Admissions, Takena Hall 115, Monday – Friday

You must have a valid LBCC student photo identification card in order to utilize many of the services on campus, including the library, the Business Affairs Office, Assessment Center, Learning Center and bookstore. A validated student ID card allows you to *ride free between educational sites* on the Linn-Benton Loop bus, Albany Transit buses and the Linn County Shuttle. It also may entitle you to discounts on merchandise or services in the community. You must be a registered student in order to obtain an ID card. ID cards are produced only on the Albany campus but you may have your ID photo taken at one of the centers. There is a one-time nonrefundable fee of $10; each term you register, your card will be revalidated at no charge. There is a processing fee for reissuing a lost card.

Advising

Takena Hall 101, (541) 917-4780, http://www.linnbenton.edu/go/advising

Academic advisors and counselors help students plan their programs of study and their class schedules. Students who are fully admitted must meet with an advisor and attend student orientation before they register. Faculty in your program or a counselor can serve as your academic advisor. If you are undecided, you should meet with a counselor for academic advising. It is important to meet with your advisor each term. Part-time students also are encouraged to participate in the academic advising program. Contact the Career Center for more information.

Student Assessment Office/ Placement Testing

HO-111, (541) 917-4781, www.linnbenton.edu/go/student-assessment

Before registering, all newly admitted full-time students are required to take the Computerized Placement Test (CPT) to determine appropriate class placement or petition to have the exam waived based on prior completion of appropriate college courses. Non-admitted, part-time students who are registering for math or writing classes also must take the CPT or petition to have it waived. Call the Student Assessment Office for an appointment. The Assessment Office also offers a variety of other tests for students and community members. They include:

- the General Education Development (GED) test for the certificate of high school equivalency;
- the College Level Exam Program (CLEP) test for college credit by examination;
- course challenges that enable students to earn college credit by examination without completing regular credit coursework;
- individualized testing for on-campus courses or programs; and
- proctored exams;
- LBCC course make-up tests.

Career and Counseling Center

Takena Hall 101, (541) 917-4780, www.linnbenton.edu/go/career-services

The Career and Counseling Center provides career, retention and crisis counseling. Regular contact with a counselor can help you clarify goals, select appropriate coursework, and progress smoothly through the college system. Counselors also teach classes in career planning, stress management, assertiveness training and life management skills.

Counselors are available at the Community Education centers, also. Call the center for their hours or to make an appointment.

Student Employment Center

Takena Hall 101, (541) 917-4780, www.linnbenton.edu/go/studentemployment

The Student Employment Center, a part of the Career and Counseling Center, helps LBCC students and alumni obtain part-time, full-time, temporary and permanent employment. Students and alumni can register for this service online at our website.

If you'd like help choosing a career, use of the "CIS" computer program is available free to the public. We can provide labor market information including projected demand (employment and openings), salary data and employment outlook analysis for a wide variety of occupations in Oregon and nationwide.

Call the Career Center for an appointment to receive help in preparing a résumé and cover letter, completing an application form, interviewing techniques and job search strategies. At LBCC's annual career fair, you can become acquainted with the employment needs of local industries and connect with local employers.

General Education Development (GED)

See "Diplomas" in the Programs of Study section of this catalog.

Adult Basic Education (ABE/GED)

Luckiamute Center, (541) 917-4710

The ABE/GED program offers a variety of classes to adults who want to improve their basic skills, or prepare for a GED. Instruction is varied, and the emphasis is on a positive learning environment.

Day and evening classes are available on the Albany campus and at the Benton, Sweet Home and Lebanon centers. Every new student must attend an orientation and pay a $25 enrollment fee at the time of registration. If you are unable to attend classes or need extra help, you can request confidential tutoring services.

If you are under 18, you must present either a signed Release from Compulsory Attendance (ORS 339.30) or an Underage Enrollment form, which you can obtain from your local school district. New students must attend an orientation before enrolling in classes.

English for Speakers of Other Languages (ESOL)

Luckiamute Center, (541) 917-4710

These are non-credit classes for individuals whose first language is not English. Classes teach reading, writing, listening, speaking, grammar, pronunciation and other basic communications skills.

Day and night classes are available in Corvallis, Albany, and Lebanon. Every new student must attend an orientation before attending any ESOL class and pay a $25 enrollment fee at the time of registration. Tutors may be requested for some individualized instruction.

Disability Services

Health Occupations Building, HO-105, Voice: (541) 917-4789, www.linnbenton.edu/go/disability-services

The Office of Disability Services (ODS) plans accommodations for LBCC students and event guests who are eligible for services. ODS staff offer information, planning and advocacy coaching. A variety of services

(i.e., test accommodations—including Computerized Placement Tests—sign language interpreting, alternate formats, notetaking) are customized, based on disability documentation provided by the student. LBCC does not test or diagnose disabilities.

If you seek disability accommodations, contact ODS immediately to schedule an Intake Workshop and complete your documentation process. Initial documentation takes days to weeks. Following documentation, requests for accommodations should be made four to six weeks in advance of each term, using OSD forms and Online Services. Forms may be picked up from ODS in HO-105, from the Support Lab at HO-114, and at each of the centers. The Support Lab and alternate formats are also available resources provided to students through ODS.

For information on any disability-related matter, contact ODS at 917-4789 (voice), or through 1 (800) 735-2900 (Oregon Telecommunications Relay Service) and ask them to call us at 917-4789. E-mail inquiries to *ods@linnbenton.edu*.

Support Lab

Health Occupations Building, HO-114, (541) 917-4789

The Support Lab offers a semi-quiet study area to all students on campus, providing a place to study, complete homework, and receive support and assistance in math and study strategies. The lab also offers assistive technology and software designed to support students with special needs. Staff members are available to help with:

- Math 020 through Math 095
- Organizational/ time management
- Study strategies
- Computers/ large screen monitor with zoom-text
- Adaptive software
- Test accommodations
- Letter and tape pick up for students receiving disability accommodations.

Located in the Health Occupations building Room HO-114, the lab is open Monday through Friday; hours vary.

Developmental Studies Department

Developmental Studies Department, Willamette Hall 200, (541) 917-4683

The Developmental Studies Department provides classes and services to prepare students for success in college. Through classroom experiences and individualized help in the Learning Center, its programs focus on improving student skills in writing, reading, and studying. The department's broad services to diverse groups across campus act as a bridge between instructional areas and student services.

The Learning Center—Albany Campus

Willamette Hall 212, (541) 917-4684 , www.linnbenton.edu/go/learning-center

The Learning Center provides students with academic assistance in an informal study area. Students will find a supportive environment designed to help them succeed—tables and chairs, good lighting, whiteboards, and various tools and equipment—and a welcoming and professional staff. Students may eat or drink in the study areas, but cell phone conversations must go outside. Services include:

Math Assistance: The drop-in Math Help Desk provides a supportive place where students can get help with mathematics. All math courses are supported. Math videos, textbooks and calculators are available for check-out at the information counter. Instructional assistants are always available to answer questions about mathematics or calculators.

Writing Assistance: *Two drop-in services*—Writing Center assistants clarify how to organize and develop essays for any writing assignments, including scholarship applications. The Writing Lab emphasizes grammar, punctuation and sentence structure.

Computer Lab Support: Find assistance with word processing, Internet access and e-mail questions. Wireless Internet access is provided throughout the facility.

Science Assistance: *Two services* —The drop-in Science desk supports physics, chemistry and biology. Weekly TASS (Tutor Assisted Study Support) sessions to review science course concepts are offered when there is sufficient student interest.

Reading and Study Skills Assistance: Students can drop in to discover learning strategies that will improve their ability to study, read textbooks and take tests.

Testing Center: When the instructor makes arrangements, students can take tests in a quiet testing environment. Photo ID is required. Cell phones are prohibited. Lockers are provided.

Student Work Area: A coin-operated copy machine and other office supplies are available.

Tutoring: Free individual and group tutoring can be arranged at the Tutoring Center. Students can pre-register for tutoring by following the links at the Learning Center Web site.

Call the Learning Center or check our Web site for hours, information about specific services offered in the Lebanon and Benton centers and additional online resources.

Student Services—Student Support

Bookstore

College Center 111, (541) 917-4950, www.bookstore.linnbenton.edu

The LBCC Bookstore carries texts and supplemental materials for courses taken on the Albany campus. Textbooks and supplemental materials for classes offered at LBCC community centers are available at the centers only. The bookstore also offers art and school supplies, stationery, novelty items, insignia sportswear, computer software, games, electronics, general interest books and convenience store merchandise.

Bookstore hours are 8 a.m. to 4:30 p.m., Monday through Friday. Visit our Web site for online ordering, book buyback information, peer-to-peer textbook classifieds, store closure dates, extended hours, store events and more. Books for classes at the centers are available only at the Benton, Lebanon and Sweet Home centers.

Campus Security

HO-119, (541) 917-4440, (926-6855 after hours), www.linnbenton.edu/go/security

The Campus Security Office is open Monday through Friday, 7:30 am to 5:15 pm. However, Campus Security can be reached 24 hours a day by calling extension 4440, 926-6855 or using one of the designated Campus Security phones at various locations on Main Campus. Campus Security services include first aid, lost and found, safety escorts, issuance of college keys, parking management and a fee-based public fax machine.

Child Care

(541) 917-4899

Periwinkle Child Development Center

LBCC offers year-round on-campus child care for LBCC student and staff families, as well as community families. The Periwinkle Child Development Center is open from 7 a.m. to 6 p.m. Breakfast, lunch and afternoon snack are provided. Parents can choose to enroll their children

for a full year, for an academic year (following the LBCC calendar) or for the summer. The center cares for children ages 18 months through kindergarten. Full-day kindergarten is offered in partnership with the Greater Albany Public School District. The center is the lab school for the LBCC Education/Child and Family Studies Department. Classrooms are staffed by professional teachers, LBCC practicum students, and student employees. Parents of children enrolled in the center can choose to participate in a variety of parenting education classes and programs. Some child care tuition assistance is available for low income, Pell Grant-eligible parents who are full-time LBCC students.

The Periwinkle Child Development Center is a state-licensed program, accredited by the National Academy of Early Childhood Programs. For more information, contact the Periwinkle Child Development Center at (541) 917-4898 or Family Connections at (541) 917-4899.

Family Connections

Family Connections is in the Luckiamute Center, room LM-132. Students can walk in between 8 a.m. and 5 p.m. or call between 9 a.m. and 4 p.m. Monday through Friday to talk with a child care expert.

Experienced, friendly staff provide referrals and information on choosing quality child care. Students can stop in to discuss a family issue, ask parenting questions or find out about available community resources. Call (541) 917-4899 or e-mail: connect@linnbenton.edu. This service is free to all LBCC credit students through a contract with ASLBCC.

Computer Lab

www.linnbenton.edu/go/computer-resources-and-labs

All full- or part-time LBCC students and staff are eligible to use the student computer labs for course-related learning/research. Computer labs are available on the LBCC Albany campus and the centers in Corvallis, Lebanon and Sweet Home. The labs are open various times. For lab locations, hours, hardware and a list of software available, check online or call the lab:

- Albany Campus, F-204, Forum Lab – 917-4470
- Albany Campus, WH-213, Learning Center Lab – 917-4698
- Corvallis Benton Center, BC-222, Learning & Career Center – 757-8944, ext. 5101
- Lebanon Center – 259-5817
- Sweet Home Center – 367-6901

Conference Services

College Center 214, (541) 917-4385

Conference Services takes care of room scheduling and the coordination of related services (e.g., food, media, custodial services). The office is open 8 a.m. to 4:30 p.m.

Cooperative Work Experience/Service-Learning

Students have the opportunity to gain college credit through work experience. This service is coordinated by Cooperative Work Experience faculty. For details, see the "Programs of Study" section in this catalog.

First Aid

See Campus Security.

Food Service

College Center 214B, (541) 917-4385

Food Services operates three eating facilities on campus and caters special activities sponsored by the college or community.

The Commons Cafeteria

The Commons Cafeteria, located on the second floor of the College Center, offers service from 10 a.m. to 1:30 p.m., Monday through Friday.

Santiam Restaurant

In the student-operated Santiam Restaurant, menus are prepared and served by Culinary Arts students Monday through Thursday during the school year. Lunch is served from 11 a.m. to 12:30 p.m. Coffee and pastries are available from 9:30 to 11 a.m. The restaurant is in CC-201.

Courtyard Cafe

Located on the first floor of Takena Hall, the Courtyard Cafe serves a selection of soups, hot and cold sandwiches, pizza, fruit, espresso and other beverages. Service is available from 7:30 a.m. to 7 p.m., Monday through Thursday, and 7:30 a.m. to 3:30 p.m. on Friday.

Health Insurance

Registration Office:
Takena Hall 115, (541) 917-4811

LBCC makes available an insurance program in which students may elect to participate. Registered students at LBCC are not covered by health insurance, accident insurance or by workers' compensation insurance.

For a few classes, arrangements have been made in advance for workers' compensation coverage. This is not automatic and requires prior arrangement. LBCC also furnishes a limited secondary medical plan for athletes in varsity programs. Both workers' compensation and athletic insurance programs are very specific in applications covering relatively few students. Call 917-4811 for more information.

Housing

Student Life and Leadership Office:
Student Union, (541) 917-4457

Although the college does not provide housing on campus, the Student Life and Leadership Office maintains a self-service bulletin board with current housing listings from the Corvallis and Albany newspapers. In addition, a listing of housing options, services and addresses is available in the Student Life and Leadership Office.

Library

Circulation and Evening:
(541) 917-4638
Reference:
(541) 917-4645
Department Chair:
(541) 917-4649

http://lib.linnbenton.edu/

The LBCC Library provides resources and services for the instructional, research and general information needs of students, staff and local residents. Remote access to electronic information resources is available to LBCC students and staff. In 2008, the remodeled library will provide a comfortable space for individual and group work as well as for quiet study.

On campus, the Library collection integrates over 50,000 books, reserve books, DVDs and videos. The library subscribes to both print and electronic journals and newspapers. Online databases help you locate magazine and journal articles and other scholarly or general information. Computer workstations connect you to the Internet, electronic library resources, word processing and other software programs. VCRs, DVD players, and photocopiers are available for your use. Library staff members provide instruction in using the library and its resources on a drop-in basis at the reference desk or through scheduled library classes.

Materials not available at LBCC may be obtained at no charge through interlibrary loan.

Lost and Found

See Campus Security.

Parking

HO-119, (541) 917-4440

Parking for students, staff and visitors is free and available on a first-come, first-served basis. Some parking areas are designated for specific use. Unauthorized overnight parking is prohibited. Parking permits are available at no charge from the Campus Security Office; although permits are not required, they are highly recommended.

A pamphlet outlining parking and traffic rules is available from Campus Security. Improperly parked vehicles are subject to a fine, and vehicles parked for an extended period of time are subject to towing at the owner's expense.

Temporary disabled parking permits can be obtained from the Campus Security Office. However, it is recommended that individuals obtain an Oregon Department of Motor Vehicle Disabled Permit, if applicable.

Printing Services

Luckiamute Building, (541) 917-4673,
www.linnbenton.edu/go/printing-servicecs

From paper to laminating, the campus Printing Services Department has it all, and students are welcome to utilize the department's services.

The pre-press staff can help with setup of any size job from envelopes to posters. Software and equipment are compatible with both PCs and Macs, and employees offer expert assistance.

The Xerox Docutech can output a single page or a large document at up to 135 pages per minute and can receive hard copy originals as well as electronic files. We also have a high quality color copier that can produce copies up to 12 x 18 inches. Our offset section has two single-color presses that can provide high-quality output, and the bindery offers many services including comb-binding, three-hole punching, laminating (up to 17 inches), stapling, folding, and padding.

Over the front counter you can purchase paper (by the sheet or by the case), printer cartridges, transparencies and much more. Specialty items include customized mousepads, puzzles and calendars. Stop by any time Monday through Friday between 8 a.m. and 4:30 p.m. for help with a project or a tour of the shop.

Student Life and Leadership

Student Union, (541) 917-4457,
www.linnbenton.edu/go/student-life-and-leadership

The Student Life and Leadership Office, which houses the Associated Student Government, Student Programming Board and the Student Ambassador program, provides opportunities for leadership, cooperative planning and development of social, cultural and physical fitness interests.

This office also maintains the Student Union, which includes the Hot Shot Coffee House, comfortable chairs and a TV.

Becoming involved with clubs and organizations can enhance your college experience. Currently active clubs include those for individuals interested in animal science, computer technology, drama, horticulture, racing performance, music and religious affiliations. Student activities, organizations and intramural sports are open to all students.

ASLBCC Student Government

The Associated Student Government gives you the opportunity to serve on college committees, participate in student government, and take part in leadership activities that enhance student life. The ASG, which serves as a representative and advisory group to faculty, administration and the LBCC Board of Education, consists of a president, vice president, public relations secretary, one representative from each academic division and one at-large representative. Any fully admitted student who is in good standing and is taking at least six credits at LBCC is eligible to hold a position. Contact Student Life and Leadership at (541) 917-4457.

LBCC Student Programming Board

The Student Programming Board (SPB) is responsible for coordinating student activities and intramural/recreational sports. Activities include free trips and tickets to special events, service learning projects, blood drives, diversity programming, and basketball and volleyball tournaments. Special events include all-campus picnics, the annual Winter Festival, a Martin Luther King Jr. celebration and many others. The group consists of eight members: a team coordinator, an intramural/recreational sports coordinator, five events specialists and a multicultural events specialist. Board members serve for three terms and are appointed through an application process. If you are interested, contact Student Life and Leadership.

Student Ambassador Program

Student Ambassadors work to enhance college recruitment and retention. They assist with on- and off-campus events, including campus tours, high school visitations and welcome back tables. Each year, seven students are paid an hourly wage to serve as Student Ambassadors.

Intercollegiate Athletics

LBCC has developed a comprehensive program of intercollegiate athletics in affiliation with the Northwest Athletic Association of Community Colleges. Programs include women's volleyball, men's and women's basketball and men's baseball. Athletic programs are funded through student fees. For more information, contact the Health and Human Performance Department, (541) 917-4235, Activity Center 102.

Intramural and Recreational Sports

In conjunction with the Physical Education Department, Student Life and Leadership offers an intramural and recreational sports program. A member of the Student Programming Board serves as the student coordinator for intramural sports. Contact the Student Life and Leadership Office, (541) 917-4457.

Multicultural Center

The Multicultural Center supports the college's diversity efforts by promoting understanding of cultural differences among students, staff and the community. The center provides the setting for informal dialogue and the opportunity to develop intercultural skills to better prepare students to enter the workforce in a culturally diverse society and global economy. Ongoing activities in the Multicultural Center include informal discussion groups, cultural celebrations, mentoring and networking. Located on the second floor of the Student Union, the Multicultural Center is a friendly space that is intended to welcome all newcomers. For more information, call the Multicultural Center, (541) 917-4461.

Music

The college offers several opportunities for participation in vocal and instrumental music, including Chamber Choir, Concert Choir, Community Chorale, and some performance groups in conjunction with the Music Department at Oregon State University. Contact the Performing Arts Department for more information, (541) 917-4530.

Publications

LBCC students publish a weekly newspaper, *The Commuter*, that has won many awards for excellence. If you are interested in participating, contact the Fine and Applied Arts Department or the Arts and Communication Division, South Willamette Hall, Room 101.

Study Abroad through LBCC

LBCC, as part of the Oregon International Education Consortium, currently offers four annual opportunities to study in other countries. One program gives students an opportunity to study in Florence, Italy, each fall; other opportunities are Paris, France, in the spring and Costa Rica and Mexico during the summer. Students study with Oregon Community College faculty and choose from a list of transferable courses that take advantage of the location in which they are studying. Participants qualify for the program if they are 18 years or older, have completed a minimum of 12 college credits (from any educational institution) and have a GPA of 2.0 or better. The cost of the program varies by location and year. For more information, contact Tammi Paul in Student Life and Leadership at (541) 917-4457.

Theater

Each year, the Performing Arts Department provides several opportunities for students and community members to participate in theater productions. Please contact the Performing Arts Department for more information, (541) 917-4530.

Benton Center

Director:
M. Colleen Clancy, (541) 757-8944, *colleen.clancy@linnbenton.edu*

Director of Community Education:
Joel White, (541) 757-8944, *joel.white@linnbenton.edu*

www.linnbenton.edu/go/benton-center

The Benton Center brings LBCC's quality education directly to Benton County residents. Conveniently located in the heart of Corvallis, the Benton Center offers a wide range of programs that include:

- Lower division transfer classes for both day and evening students
- Professional technical training
- GED preparation
- Business technology and accounting skills
- Basic training in math, writing and computer skills
- English for speakers of other languages
- Business development and contract training
- A pre-school cooperative and parenting classes
- Lifelong learning opportunities in art, physical education, computers and more

Degree programs at the Benton Center prepares students to transfer to four-year colleges all over and is specially designed to make transfer to Oregon State University seamless. LBCC and OSU students can take classes at either, or both, institutions through our Degree Partnership program. The transfer courses offered at the center are the same comprehensive courses offered at other LBCC sites. Detailed course descriptions can be found in this catalog. A current schedule of Benton Center classes can be found on the college Web site and in the printed schedule of classes.

The Benton Center supports its students with services including advising, placement testing, registration, and a bookstore. Center services are available from 8 a.m. to 8 p.m. Monday through Thursday and from 8 a.m. to 4 p.m. on Friday.

Career counseling and college advising are available free of charge at the center. Call (541) 757-8944 set up an appointment.

The Benton Center is located at 757 Polk Street, Corvallis, 97330. The center can be reached by calling (541) 757-8944. Send e-mail questions to *bcinformation@linnbenton.edu*.

Linn Centers

Director:
Dawn McNannay, (541) 259-5801 *dawn.mcnannay@linnbenton.edu*

Director of Community Education:
Joel White, (541) 757-8944, *joel.white@linnbenton.edu.*

Albany Community Education Coordinator:
Cathy Edmonston, (541) 917-4840, *edmonsc@linnbenton.edu*

Coordinator of Lebanon and Sweet Home Centers :
Mary Sue Reynolds, *reynolm@linnbenton.edu*

www.linnbenton.edu/go/albany-community-ed

www.linnbenton.edu/go/lebanon-center

www.linnbenton.edu/go/sweet-home-center

The **Lebanon and Sweet Home Centers** provide direct access to educational programs to East Linn County residents. The smaller facilities and class size create a comfortable environment for students just beginning college as well as those returning to school. Among the programs offered are:

- Lower division transfer classes for both day and evening students
- Adult basic skills and GED preparation
- English for speakers of other languages
- Business technology and accounting skills
- Basic training in math, writing and computer skills
- Professional technical training
- Small business development
- Parenting classes
- Lifelong learning opportunities in computers, physical education, art, personal growth, history and more

The transfer courses offered at the centers are the same comprehensive courses offered at other LBCC sites. Detailed course descriptions can be found in this catalog. A current schedule of Lebanon and Sweet Home Center classes and hours of operations can be found on the college Web site and in the current printed schedule of classes.

The **Lebanon and Sweet Home Centers** support their students with services including advising, registration and tuition payments, and financial aid information, placement testing, labs, tutoring and a bookstore. TRIO, a program to support first-generation college students, has staff and services available at the Lebanon Center.

Career counseling and college advising are available free of charge at the centers. Call 541-259-5811 to set up an appointment.

The Lebanon Center is located at 44 Industrial Way, Lebanon, Oregon 97335 (541) 259-5801 and the Sweet Home Center is located at 1661 Long Street, Sweet Home, Oregon (541) 367-6901.

The **Albany Community Education Office,** located in Takena Hall on the Albany Campus, offers workshops and classes for professional development, personal growth, and life long learning. Community education classes are offered at various sites within the greater Albany area in cooperation with community organizations. The office also coordinates Driver Education, Motorcycle Safety, and Tractor Safety throughout Linn and Benton counties. A current schedule of Albany Community Education classes and hours of operation can be found on the college Web site and in the current printed schedule of classes.

Family Resources and Education

Family Resources and Education offers information and assistance to parents interested in helping their children develop into healthy adults. Classes for parents, child care providers and educators are offered each term.

Family Connections

Program Contact:
Pam Dunn, (541) 917-4899 E-mail: connect@linnbenton.edu

For families, Family Connections offers comprehensive information, education and advice on: child care, short-term respite care, parenting, family activities and support groups in Linn and Benton counties.

For child care providers, Family Connections offers a variety of evening and weekend classes and short term training. These classes are designed to assist child care providers in meeting state training requirements, to participate in the Oregon Registry to aid in program improvement, or to enroll in LBCC's certificate or degree programs through the Childhood Care and Education programs.

Parenting Education

Program Contact:
Jerri Wolfe, (541) 917-4891

Additional Faculty:
Joyce Brown

Family Resources and Education's Parenting Education Department promotes the development of knowledge and skills for strong families through classes, workshops and home visits. Programs are offered throughout Linn and Benton counties and serve parents and other primary caregivers and professionals working with parents.

The **Parent Educator Training Program** provides ongoing training and support for people who want to continue their professional development.

Community Parenting Program

Parent/Child Classes. Parents of babies through preschoolers can attend classes with their children in many communities in Linn and Benton counties. Parents discuss parenting topics and join in activities while their children learn and grow with other children.

Parenting Classes. A wide variety of classes and workshops are offered in partnership with schools and community organizations in Linn and Benton counties.

Parent Advice Line provides consultations by phone at 1 (800) 845-1363 or (541) 917-4899.

Specialized Parent Education Program

Intensive Parent Education reaches families through home visitation and adult and parent/child classes. These group and individualized services are designed to prevent child abuse and neglect.

Parenting Time offers parent/child sessions, skill-building visits between parents and children in foster care that are designed to reunite families.

Albany Family Literacy Program

The **Albany Family Literacy Program** is a family-oriented education program for adults and their young children. Program components include: adult education, early childhood education, and parent support/parent-and-child together time. Parents work toward a GED or professional skills while learning how to help their children develop skills to succeed in school.

Periwinkle Child Development Center

The Periwinkle Child Development Center offers full-time child care for children ages 18 months through kindergarten. Full-day kindergarten is offered in partnership with the Greater Albany Public School District. The center is the lab school for the LBCC Education/Child and Family Studies Department. Classrooms are staffed by professional teachers, LBCC practicum students, and student employees.

The Periwinkle Child Development Center provides care for children of LBCC students and staff, as well as community families. The Periwinkle Child Development Center in open year-round from 7 a.m. to 6 p.m.; families can choose to enroll for a full year or an academic year (following the LBCC calendar). Parents of children enrolled in the Periwinkle Child Development Center can choose to participate in a variety of parenting education classes and programs. Some child care tuition assistance is available for low income, Pell Grant-eligible parents who are full-time LBCC students.

The Periwinkle Child Development Center is a state-licensed program, accredited by the National Academy of Early Childhood Programs. For more information, contact the Periwinkle Child Development Center at (541) 917-4898 or Family Connections at (541) 917-4899.

Workforce Education

Dean:
Ann Malosh, (541) 917-4932

Fire Science

Program Contact:
Debby Rainey, (541) 917-4938

Fire Science classes are available to paid and volunteer firefighters based on demand.

Health Occupations/Services Education Center (HOSEC)

Faculty:
Ann Custer, (541) 917-4489

Health Occupations/Services Education Center (HOSEC) is providing education for the health care community to meet the challenges of today and tomorrow. Offerings include contracted training, conferences and workshops, and continuing education. HOSEC administers the nursing assistant program and the high school health careers program in addition to partnering with the health care community to respond to continuing education needs. HOSEC can provide contracted trainings for your staff or develop new training programs to be held at your facility or at the college.

Life and Employment Development Department

Director:
Beth Graham, (541) 917-4875

JOBS Program Faculty:
Carol Erickson, (541) 967-2078, ext. 411 (Albany)
Marcia Pierson, (541) 757-4201, ext. 255 (Corvallis)
Shelly Dermody, (541) 259-5826 (Lebanon)

Turning Point Transitions Program Faculty:
Joanne Apter, (541) 917-4876

The Life and Employment Development Department oversees two different training and workforce programs: Job Opportunities and Basic Skills (JOBS) and Turning Point Transitions. Each program offers participants a unique opportunity to explore options available to them as they make life and career transitions. Staff members work closely

with other college departments and community organizations to provide educational, professional, technical and counseling services as part of their comprehensive job training and educational programs.

The goal of the *JOBS program* is to enable individuals to make the transition from public assistance to self-sufficiency. Students are referred by the Oregon Department of Human Services and work with college faculty to develop individual programs that help prepare them for full-time, unsubsidized employment. Instructional areas include life and career planning; adult basic education; short-term, intensive professional/technical training; work site training; job search instruction and job retention and career development.

Turning Point Transitions is a program for single parents, displaced homemakers, dislocated workers, spouses of dislocated workers and others who are experiencing a major life transition. Participants build self-confidence by improving communication and assertive abilities. They also learn skills such as time and money management; positive parenting; living alone; wellness; and goal setting, decision-making and problem-solving techniques. Career exploration is tailored to meet the needs of the participants. Limited needs-based child care and transportation assistance are available. Call (541) 917-4876 for details.

Business Development Center

Faculty:
Alan Fudge, Martin Schulz
(541) 917-4931

The Business Development Center can provide assistance in all aspects of business, including start-up information, business plan preparation, management skills and preparation for financing. The center offers workshops on numerous topics, provides confidential business counseling, and can help business owners locate resources in the community. Through its Small Business Management programs, the center offers intensive help including monthly meetings with instructors. The center also makes available a variety of reference materials.

The Business Development Center is co-sponsored by the Small Business Administration and Oregon Economic and Community Development Department.

Contracted Training and Professional Development

Director:
Gary Price, (541) 917-4948

Faculty:
Joseph Bailey, (541) 917-4935
Karin Magnuson, (541) 917-4276

With demands increasing to upgrade the skills of our workforce, the college responds by providing training whenever and wherever it is needed. *Contracted training* has the expertise and resources to develop and deliver training based on the needs of businesses and industry. Training offered covers topics such as computer applications, leadership and supervisory training, problem solving, interpersonal communication, on-the-job training skills and lean manufacturing.

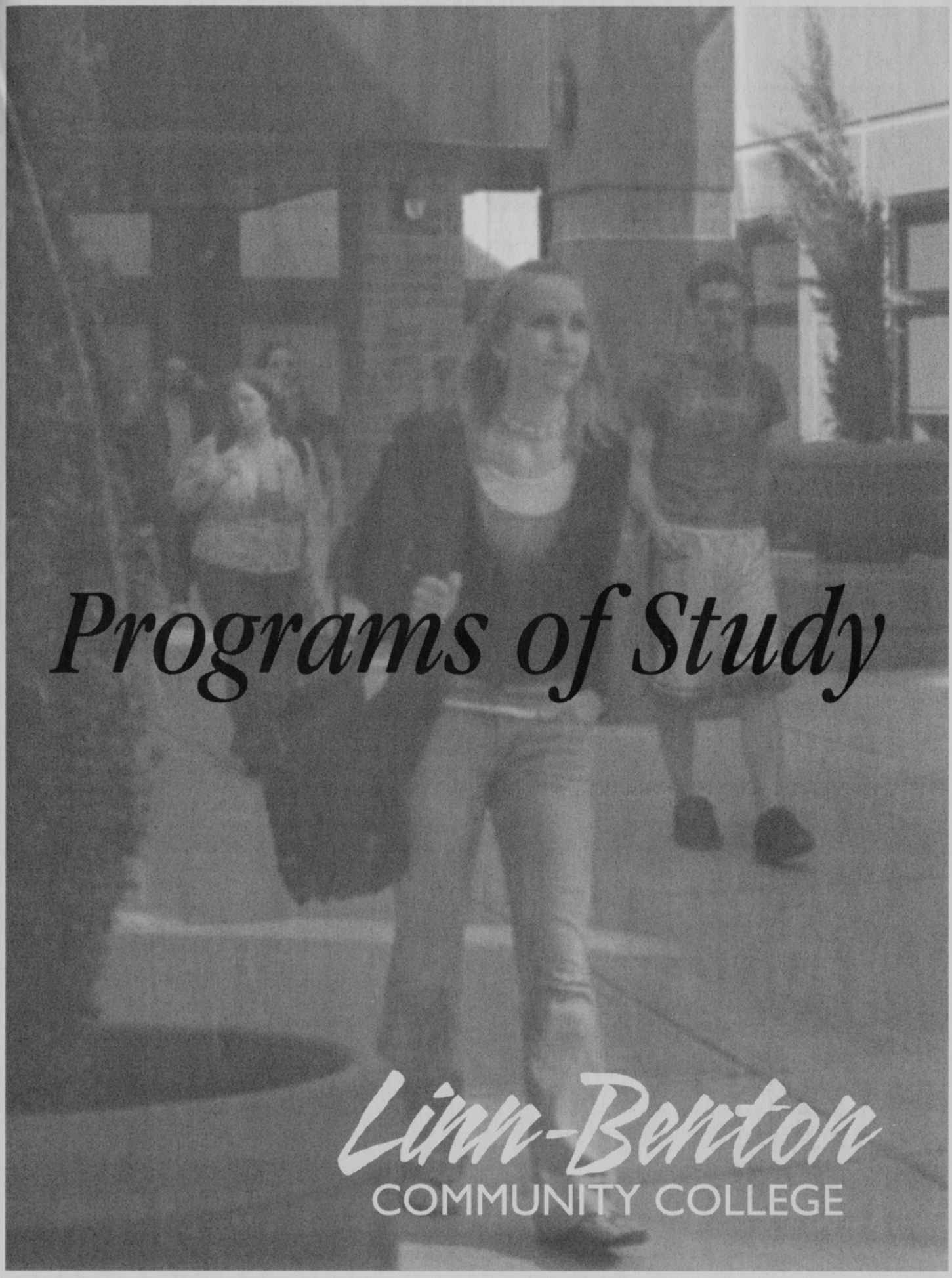
The Training and Business Development Center offers quality, affordable and convenient professional development options for individuals and businesses. Many programs are available, including computer seminars, online courses, safety training, continuing education workshops, leadership and supervisory workshops.

Accelerated Cost-Recovery Training

Faculty:
Dagmar Johnson, (541) 917-4934

Accelerated and Cost-Recovery Trainings are less-than-one-year certificates, one-year certificates, and two-year certificate programs that focus on specific skills for specific jobs. The state-approved certificate programs are offered as needed, depending on current openings in the local job market and the number of interested students. A group of 16 to 25 students complete the certificate program together and attend class for approximately 30 to 40 hours each week.

The cost of these certificate programs varies. The advertised price for each program includes all tuition, fees, books and supplies. Last year the cost ranged from $1,000 to $9,200, depending on the length of the training and the topic. Program costs are subject to change. The following programs qualify for financial aid if the student is eligible to receive aid: Pharmacy Technician, Phlebotomy and Veterinary Technology.


Programs of Study
Linn-Benton
COMMUNITY COLLEGE

LBCC DEGREES AND CERTIFICATES

LBCC offers the following degrees and certificates. (AS = Associate of Science, AAS = Associate of Applied Science) In addition, the college offers the Associate of General Studies and Associate of Arts (Oregon Transfer) degrees.

	Degrees		Certificates		
Program	**AS**	**AAS**	**Two Year**	**One Year**	**Short Term**
Accounting Clerk				•	
Accounting Technology		•			
Administrative Medical Assistant		•			
Administrative Professional		•			
Admin. Professional: Office Management		•			
Advanced Supervisory Management				•	
Agricultural Business Management	•				
Agriculture	•	•		•	
Animal Science	•				
Animal Technology		•			
Animal Technology/Horse Management		•			
Apprenticeship (Crafts & Trades)		•			
Art	•				
Automotive Technology		•	•		
Basic Networking					•
Basic Supervisory Management					•
Biological Sciences	•				
Business Administration	•				
Business & Supervisory Management		•			
Chemistry	•				
Child & Family Studies		•		•	•
Civil Engineering Technology				•	
CNC Machinist					•
Collision Repair Technology				•	
Computer Science	•				
Computer User Support		•			
Construction & Forestry Equip. Tech.		•			
Criminal Justice		•			
Culinary Arts—Chef Training		•			
Dental Assistant				•	
Diagnostic Imaging			•		
Digital Imaging/Prepress Technology				•	
Drafting & Engineering Graphics Tech.		•			
Economics	•				
Elementary Education	•				
Emergency Management Leadership					•
Emergency Medical Technician				•	
Employment Skills					•
Engineering	•				
English	•				

	Degrees		Certificates		
Program	**AS**	**AAS**	**Two Year**	**One Year**	**Short Term**
Equine Science	•				
Exercise & Sport Science	•				
Foreign Language	•				
General Science	•				
Graphic Design		•			
Health & Human Sciences	•				
Health Promotion & Education	•				
Heavy Equipment/Diesel Technology	•	•	•		
Horticulture	•	•		•	
Instructional Assistant		•		•	
Instructional Assistant, Library					•
Journalism/Mass Communications	•				
Juvenile Corrections				•	
Legal Administrative Assistant		•			
Machine Tool Technology				•	
Mathematics	•				
Medical Assistant		•			
Medical Office Specialist				•	
Medical Transcriptionist				•	
Music	•				
Network & Systems Administration		•			
Nursing		•			
Nursing Assistant					•
Occupational Skills Training				•	
Office Specialist				•	
Office Technology Skills					•
Pharmacy Technician					•
Phlebotomy					•
Physics	•				
Pre-Restaurant Management	•				
Refrigeration/Heating/Vent./Air Cond.				•	
Social Science	•				
Speech Communication	•				
Systems Administration					•
Theater	•				
Veterinary Technology					•
Water/Wastewater Technology		•		•	
Web Design					•
Welding Technology		•	•	•	
Wine & Food Dynamics		•			

LBCC ASSOCIATE OF SCIENCE DEGREES LEADING TO OSU DEGREES

LBCC Associate of Science Degree	OSU Degree
Agricultural Business Management	Environmental Economics, Policy & Management (BS)
	Agricultural Business Management (BS)
Agriculture, General	Crop and Soil Science (BS)
	General Agriculture (BS)
	Horticulture (BS)
	Rangeland Resources (BS)
Animal Science	Animal Sciences (BS)
Art	Applied Visual Arts (BFA)
	Art (BA or BS)
	Photography Option (BA or BS)
Biological Sciences	Biology (BS)
	Bioresource Research (BS)
	Botany (BS)
	Environmental Sciences (BS)
	Fisheries and Wildlife Science (BS)
	Food Science and Technology (BS)
	Forest Management (BS)
	Medical Technology (BS)
	Microbiology (BS)
	Zoology (BA)
Biological Sciences or Chemistry or Physics	Biochemistry and Biophysics (BS)
Biological Sciences or Physics	Radiation Health Physics (BS)
Business Administration	Business Administration (BA or BS)
Chemistry	Chemistry (BA or BS)
	Pre-Pharmacy (BS)
	Wood Science Technology (BS)
Computer Science	Computer Science (BA or BS)
	Management Information Systems Option (BA or BS)
Economics	Economics (BA or BS)
Education*	Elementary: Human Development and Family Sciences or General Science or Liberal Studies (BA or BS)
	*Secondary: Academic subject major or Technology Education (BA or BS)
Engineering	Biological Engineering (BS)
	Chemical Engineering (BS)
	Civil Engineering (BS)
	Civil Engineering - Forest Engineering (BS)
	Computer Engineering (BS)
	Construction Engineering Management (BA or BS)
	Electrical and Electronics Engineering (BS)
	Engineering Physics (BS)
	Environmental Engineering (BA or BS)
	Forest Engineering (BS)
	Forest Engineering - Civil Engineering (BS)
	Industrial Engineering (BS)
	Manufacturing Engineering (BS)
	Mechanical Engineering (BS)
	Nuclear Engineering (BS)
English	English (BA)
Equine Science	Animal Sciences, Equine Science Option (BS)
Exercise and Sport Science	Exercise and Sport Science (BS)
Foreign Language	French (BA)
	German (BA)
	Spanish (BA)
General Science	Environmental Health & Safety (BS)
	Forest Recreation Resources (BS)
	General Science (BS)
	Geology (BA or BS)
	Natural Resources (BS)
Health & Human Science	Apparel Design (BS)
(formerly Home Economics)	Housing Studies (BS)
	Human Development and Family Sciences (BS)
	Interior Design (BS)
	Merchandising Management (BS)
	Nutrition & Food Management (BS)
Health Promotion & Education	Health Promotion and Education (BS)
Horticulture	Horticulture (BS)
Journalism/Mass Communications	** (BA or BS)
Mathematics	Mathematical Sciences (BS) Mathematics (BS)
Music	Music (BA or BS)
Physics	Physics (BA or BS)
	Computational Physics (BS)
Pre-Restaurant Management	Restaurant & Food Service Management Option (BS)
Social Science	American Studies (BS)
	Anthropology (BA or BS)
	Ethnic Studies (BA or BS)
	History (BA or BS)
	Philosophy (BA or BS)
	Political Science (BA or BS)
	Psychology (BA or BS)
	Sociology (BA or BS)
Speech Communication	Speech Communication (BA or BS)
Theater	Speech Communication Theater Arts Option (BA or BS)

*Education: Students who are interested in secondary education need an academic subject major and need to see an Education advisor. Students interested in either elementary or secondary teaching may also elect to complete an academic subject major and a double degree in Education.

**Journalism/Mass Communication: Students who complete the AS degree in Journalism should plan to complete the Liberal Studies degree at OSU. Contact the Journalism advisor at LBCC or the Liberal Studies advisor at OSU for a complete list of recommended courses.

Degrees

Associate of Applied Science

The Associate of Applied Science degree is intended primarily to lead students directly to employment in a specific career. Awarded to students who complete the requirements of a specified, two-year professional technical (non-transfer) program, this degree is offered in a number of interest areas. (See the degrees and certificates chart.) For degree requirements, see Appendix A.

Associate of Arts Oregon Transfer

The Associate of Arts Oregon Transfer degree (AAOT), which is offered without a designated major, will satisfy the lower-division general education requirements of any institution in the Oregon University System (but not necessarily school, department or major requirements with regard to courses or GPA). You may work with your advisor to concentrate your studies in an area of interest. For degree requirements, see Appendix B.

Associate of Science Oregon State Direct Transfer (with an emphasis in a specific area)

The college offers an Associate of Science degree (AS), a lower-division degree intended to facilitate a transfer to Oregon State University. For degree requirements, see Appendix C.

Associate of General Studies

The Associate of General Studies (AGS) degree is awarded to students who complete a two-year curriculum, which may include transfer and/or non-transfer credit coursework. You may earn an Associate of General Studies degree in any program of study available at LBCC. Please refer to the Major Codes section of the quarterly Schedule of Classes for a complete listing of options. For degree requirements, see Appendix E.

Certificates

The chart on page 29 lists the certificates that LBCC offers. Certificates are awarded to students who complete specific requirements within a professional technical major. Refer to the "Program Descriptions" section for these requirements. General certificates require a specified number of credit hours. Students must have a grade point average of at least 2.00 in required courses to earn a one-year certificate.

Oregon Transfer Module

The Oregon Transfer Module is 45 credits of an associate degree. It is not a degree or certificate. Completing the Oregon Transfer Module allows students to seamlessly transfer 45 credits of general education requirements to any Oregon community college, Oregon university system institution, or participating Oregon independent college or university. The receiving institution may specify additional coursework that is required for a major or for degree requirements or to make up the difference between the Transfer Module and the institution's total General education requirements. For module requirements, see Appendix F.

Diplomas

Two LBCC programs enable students to obtain a high school diploma or high school equivalent.

Adult High School Diploma (AHSD)

LBCC is authorized by the state of Oregon to issue a competency-based adult high school diploma to adults (age 16 or older) who meet high school graduation requirements established by the college. Information about the AHSD program is available through the Alternative Learning Opportunities Office, the Counseling Center or Extended Learning centers. Applications are available from the Admissions Office.

General Education Development (GED)

GED preparatory classes are offered for adults who want to improve their general knowledge and skills in writing, reading, math, science or social studies. Individualized study and group work are provided. There is a $25 enrollment fee, and you may need to purchase texts and study materials. New students must attend a GED orientation before enrolling. If you already have a GED or high school diploma, you may still attend classes to upgrade your skills.

General Graduation Requirements

Requirements for degrees, certificates and diplomas are subject to approval of the LBCC Board of Education, the Oregon Department of Education and the Department of Community College and Workforce Development.

Graduation is not automatic; you must submit an application for graduation by the end of the second week of the term in which you expect to graduate. Application forms are available at the Admissions Office/First Stop Center in Takena Hall. Deadline dates for submitting an application for graduation are published in the Schedule of Classes each term.

General Requirements (apply to degrees, certificates and diplomas):

- You must be admitted to the college.
- You must graduate within one calendar year from the date you completed the requirements for the credential.
- The awarding of a credential becomes official only when graduation information has been posted to your transcript.
- You must use a graduation worksheet from any of the last five catalog years in which you earned at least one credit.
- Credential requirements may not be combined from multiple years.
- You must meet all graduation requirements of the credential program.

Degrees:

- You must earn a minimum of 24 LBCC credits of which at least 15 must be in your major field. (The second part of this requirement may be waived in some instances.) No credits granted for prior learning can be applied towards meeting this requirement.
- At least 24 of your last 35 credits must be earned at LBCC.
- You must have a 2.00 accumulative GPA.
- You must complete a minimum of 70 percent of all credits attempted. Grades of "F," "NP," "Y," "IN, "WP" and "W" are non-completion grades.
- To earn more than one degree or to major in more than one field, you must complete an additional 24 credits for each program beyond those required for the first degree.

- The maximum number of "P" credits allowed is 16, not including those with an obligatory "P" grade.
- A maximum number of 24 non-traditional credits beyond any required by a given program can be used towards a degree. See the non-traditional credit section of this catalog for more information.

Two-Year Certificate:

- You must earn at least 24 LBCC credits toward the certificate. No credits granted for prior learning can be applied towards meeting this requirement.
- Up to 24 prior learning credits may be used to meet requirements.
- You must have a 2.00 GPA based on the LBCC courses completed for the program.
- The maximum number of "P" credits allowed is 16, not including those with an obligatory "P" grade.

One-Year Certificate:

- You must earn at least 12 LBCC credits toward the certificate. No credits granted for prior learning can be applied towards meeting this requirement.
- Up to 12 prior learning credits may be used to meet requirements.
- You must have a 2.00 GPA based on the LBCC courses completed for the program.
- The maximum number of "P" credits allowed is 8, not including those with an obligatory "P" grade.

Less-Than-One-Year Certificate:

- You must earn all credits toward the certificate from LBCC.
- No credit for prior learning credits may be used to meet requirements.
- You must have a 2.00 GPA based on the LBCC courses completed for the program.

Graduation Requirements for Specific Degrees

For Graduation Requirements for specific degrees, see the following:

- Requirements for Associate of Applied Science degree—See Appendix A.
- Requirements for Associate of Arts (Oregon Transfer) degree—See Appendix B.
- Requirements for Associate of Science degree—See Appendix C.
- Liberal Arts Core Requirements for Associate of Science degree—See Appendix D.
- Requirements for Associate of General Studies degree—See Appendix E.
- Requirements for Oregon Transfer Module—See Appendix F.

Requirements for Certificates and Diplomas

Refer to "Programs of Study" in this catalog.

Other Learning Opportunities

Distance Education

Manager:

Alan Heywood; Willamette Hall 110, (541) 917-4604

LBCC's distance education courses allow students to earn degrees or upgrade existing skills at their own convenience. Students who find it difficult to attend a course on campus have an alternative that gives them the flexibility of pursuing their educational goals by utilizing the Internet, videotape, cable and broadcast television. These technologies deliver educational opportunities directly to the student, whether in the home, in the workplace or in a distant community. LBCC has taught distance education classes to more than 20,000 students since 1979. Please refer to the Distance Education pages of the quarterly Schedule of Classes for a list of these courses.

Registration Information

Students register for distance learning classes the same way they do for regular LBCC courses. For complete class information, visit the LBCC Web site at *http://www.linnbenton.edu/to/distance-education*.

Distance learning students may become fully admitted to LBCC. Students may access an application, take placement tests, complete orientation and advising, and register for classes online.

Admission forms are available at *www.linnbenton.edu/go/admissions*. Click on "Forms" and select "Application for Admission." Complete the application and mail it with the $25 application fee.

Contact the Student Assessment Office at *online@linnbenton.edu* or call (541) 917-4781 to arrange for completing your placement tests online. The tests must be proctored, and advance notice will be required so arrangements can be made. The math, reading or writing placement test is required if you choose to take a math, reading or writing course as a part-time student. You may petition to have the test(s) waived by completing a Petition to Waive form (available at the Admissions Web site) and by submitting documentation of previous college coursework.

Cooperative Work Experience

CWE Coordinators:

Rich Horton, (541)917-4787; Sherry Rosen (541)917-4787; Takena Hall 101

Cooperative Work Experience provides you with the opportunity to earn up to 14 credits for working or volunteering in a job related to your LBCC program of study.

This allows you to explore the suitability of an occupation, gain work experience, make professional contacts, and apply classroom knowledge to real-world settings. You may be exposed to work methods not taught in the classroom and have access to equipment not typically available in the college laboratory. A primary focus of CWE is to reinforce and provide learning experiences not available in the classroom.

All students in the Cooperative Work program are required to enroll in WE 202 CWE Seminar, which provides them with an opportunity to share work-related experiences and concerns and allows the CWE coordinator to monitor student progress.

If you are interested in building Cooperative Work Experience into a program at LBCC, discuss it with your program advisor and the CWE coordinator to plan the most appropriate term for registration and to allow ample time for locating a training site.

Service Learning

Coordinator:
Sherry Rosen, (541)917-4787; Career Center; Takena Hall T-101

Another way of earning credit for experience outside the classroom is called Service Learning. Like Cooperative Work Experience, Service-Learning allows students to gain experience related to their major. The distinction is that Service-Learning students choose to apply their skills working with community partners in addressing real community needs. In addition to identifying learning objectives, students engage in faculty-led, guided reflection activities designed to promote critical thinking, citizenship and civic responsibility. The reflection may take the form of discussion, oral presentations or a reflective journal.

For example, math students might tutor elementary students in math or collect and analyze data for an environmental group. Auto tech students might teach basic auto repair to high school women or provide free auto repair to low-income parents. Art students might paint murals in the community. Music students might perform in nursing homes.

If you are interested in receiving credit for Service-Learning, please contact the Service-Learning Coordinator the quarter before you wish to register to allow time to discuss your interests and goals and to find a Service-Learning site. Students may also participate in service projects sponsored by LBCC Student Life and Leadership. Some instructors also choose to incorporate Service-Learning into their curriculum.

Reserve Officer Training Corps

ROTC Coordinator:
Rich Horton, (541)917-4787; Takena Hall 101

In cooperation with Oregon State University, LBCC provides an opportunity for men and women to participate in a Reserve Officers Training Corps program while attending LBCC.

Through a program of instruction coordinated with the normal academic curriculum, ROTC selects and prepares individuals to serve as officers in the regular and reserve components of the Army and Air Force. ROTC strives to develop students morally, mentally and physically; cultivate in them a capacity for leadership; and to provide them with the basic working knowledge required of a young officer.

Aerospace Studies (Air Force ROTC)

Air Force ROTC allows you to compete for a commission as an officer in the United States Air Force. Opportunities exist for well-qualified students from all fields. Scholarship opportunities are especially bright for students with majors related to science, engineering and mathematics. The Air Force is particularly interested in students who are leaning toward careers as pilots or navigators. Two- and four-year programs are available.

Army ROTC

This program offers eligible men and women the opportunity to compete for commissions as officers in the United States Army. Basic and advanced programs with multiple entry points can be tailored to your needs. If you are interested in an aviation career, you will have the opportunity to become an officer pilot in fixed or rotary wing aircraft. Merit scholarship opportunities exist for students in any approved academic discipline, particularly in engineering, science, business and social science.

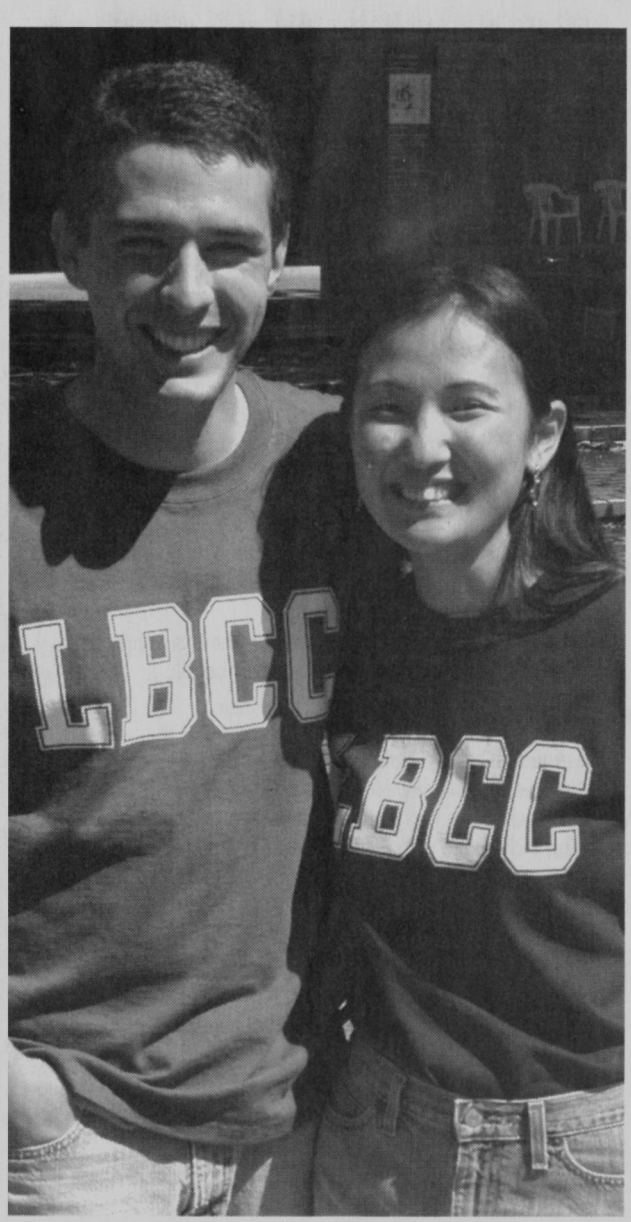
Transfer Opportunities

Advanced Degree Programs

Albany Community Education:
Cathy Edmonston, (541)917-4840

Linfield College

Linfield College offers you the opportunity to earn a Linfield degree by taking classes on the LBCC campus. Evening courses are offered that lead to a Bachelor of Arts or a Bachelor of Science degree in Accounting, Arts and Humanities, Business Information Systems, International Business, Management, and Social and Behavioral Sciences. Up to 108 LBCC credits may be transferred to Linfield College. You also may be able to receive up to 31 credits toward your degree through the Prior Learning Portfolio Program. For additional information, contact the Linfield academic advisor at (541)917-4846 or visit the Web site: *www.linfield.edu/dce*



Accounting Technology

Program Contacts:
Michael Houser, Jack Stone

Additional Faculty:
Sally Andrews, Jim Byrne, Myrna Gusdorf, Paul Jorgensen, Wendy Krislen, Ian Priestman

An associate degree or certificate in accounting technology can prepare you for a wide variety of jobs in the accounting field. These positions manage the financial records of companies or clients, documenting and recording financial information for use in reports, research, financial statements and payrolls.

In smaller offices, accountants handle all finances. They record petty cash, prepare bank deposits; summarize spending habits; and prepare reports for managers and supervisors. In larger offices and accounting departments, the jobs are more specialized. Entry-level positions enter the details of transactions, find the totals for accounts, compute interest charges, and monitor loans as well as being responsible for accounts payable and receivable. More experienced accountants may be responsible for payroll, receivables, payables and the entire accounting cycle.

As offices computerize their financial records, more accountants are using accounting software on computers. Experienced workers may code documents and post transactions on the computer. They may review invoices and statements as well as check reports.

Accountants must ensure that their actions comply with federal and state laws and with company procedures. They need knowledge in economics and accounting; general office work such as filing and recording information; mathematics; the English language; computer hardware and software; laws, rules, and court procedures; providing customer services.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science degree in Accounting will:

- Accurately generate, compile and interpret accounting systems as required by the organization.
- Successfully utilize computer technology to create documents and report information.
- Analyze and interpret accounting information, including answering questions and communicating with stakeholders at a level appropriate to the stakeholders understanding.
- Work with team members and successfully interact with internal and external stakeholders. Assume a leadership role.

Program Requirements

Two programs are available for students who are interested in accounting but do not desire a four-year degree: a one-year certificate in Accounting Clerk and a two-year Associate of Applied Science degree in Accounting Technology. Both prepare students for entry-level positions in bookkeeping and accounting; however, graduates of the two-year program should be able to enter at a higher level and advance further.

Students entering the program should have a high interest in business operations, attention to detail, computer software, and working in a team environment. They also should have sufficient math and writing skills to enroll in MTH 065 Elementary Algebra and WR 121 English Composition.

1– Courses offered that term only.

CAREER AND TECHNICAL

Associate of Applied Science in Accounting Technology

General Education Requirements 19
See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements 72-73

Course No.	Course Title	Credits
Fall Term - First Year		
BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
MTH 065	*Elementary Algebra*	*4*
OA 201	Word Processing for Business: WordPerfect or	
OA 202	Word Processing for Business: MS Word	3
Winter Term		
BA 2.531	Practical Accounting II	4
BA 224	*Human Resource Management (3 credits) or*	
BA 285	*Business Relations in a Global Economy* (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
CIS 125O	Introduction to Windows	1
CIS 125S	Introduction to Spreadsheets	1
MTH 095	Intermediate Algebra	4
OA 2.513	Numeric Keyboarding: Speed & Accuracy	1
WR 121	*English Composition*	*3*
Spring Term		
BA 2.532	Practical Accounting III	4
BA 2.535	Payroll Accounting	2
BA 2.684	Computerized Accounting	3
BA 230	Business Law	3
CIS 125D	Introduction to Databases	1
SP 100	*Introduction to Speech Communication*	*3*
Fall Term - Second Year		
BA 2.127	Governmental Accounting[1]	3
BA 2.595	Professional Accounting I[1]	3
BA 206	Principles of Management	3
	Science, Technology & Society	*3*
	Health or Activity Course	*3*
Winter Term		
BA 2.534	Cost Accounting[1]	3
BA 2.596	Professional Accounting II[1]	3
CIS 135S	Advanced Spreadsheets	3
	CWE	6
Spring Term		
BA 2.597	Professional Accounting III[1]	3
BA 222	Financial Management[1]	3
BA 256	Income Tax Accounting[1]	3
EC 115	Outline of Economics	4
	Total Credits Required:	**91-92**

CAREER AND TECHNICAL

One-Year Certificate in Accounting Clerk

Course No.	Course Title	Credits
Fall Term		
BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
MTH 065	Elementary Algebra	4
OA 201	Word Processing for Business: WordPerfect or	
OA 202	Word Processing for Business: MS Word	3

Winter Term

BA 2.531	Practical Accounting II	4
BA 224	Human Resource Management (3 credits) or	
BA 285	Business Relations in a Global Economy (4 credits)	3-4
CIS 125O	Introduction to Windows	1
CIS 125S	Introduction to Spreadsheets	1
OA 2.513	Numeric Keyboarding: Speed & Accuracy	1
MTH 095	Intermediate Algebra	4
WR 121	English Composition	3

Spring Term

BA 2.532	Practical Accounting III	4
BA 2.535	Payroll Accounting	2
BA 2.684	Computerized Accounting	3
BA 226	Business Law	3
CIS 125D	Introduction to Databases	1
SP 100	Introduction to Speech Communication	3

Total Credits Required: 48-49

Administrative Professional

Program Contact:

Mary Ann Lammers

Additional Faculty:

Rosemarie Hubley, Twila Lehman, Nancy Noe, Sally Stouder

Administrative professionals work in all types of organizations and firms, performing a variety of clerical and administrative duties. They spend some of their day answering the phone and giving information to callers. They schedule appointments, make travel arrangements, place orders, organize files, compose letters, produce documents, and compile lists or other data from various sources. In addition, they may conduct research on the Internet and write reports of their findings or manage projects using database management software.

Administrative professionals use a variety of office equipment to do their work. They use fax machines, copiers, and complex phone systems. They may use complex computer software to run spreadsheets or do desktop publishing. Because of these tools, managers and executives often perform much of their own word processing. Administrative professionals in these offices are freed to support several members of the professional staff, often working as part of a team.

The Administrative Professional program offers new class formats and new teaching methodologies designed to attain proficiencies and outcomes formulated from local, as well as national, standards. The program emphasizes working in a high-performance environment, incorporating the new workplace standards of teamwork and collaborative projects. Students develop software, computer, and general office-related skills, with additional emphasis on accounting and law. They are part of a learning community that provides the opportunity to network, collaborate with other classmates in completing assigned projects, and develop high standards of quality and participation. The advanced skills and certification opportunities offered by this program will put the student a step above other applicants upon graduation.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Administrative Professional will

- Function effectively as a team member and/or leaders, including virtual partners.
- Interact effectively in oral and written communications.
- Use computers and other technology proficiently for administrative tasks.
- Demonstrate positive interpersonal interactions and diplomacy.
- Manage multi-tasks efficiently.
- Model professional and ethical behaviors.
- Participate in ongoing professional development.
- Solve problems using a variety of appropriate tools.
- Demonstrate proficiency in content areas.

Program Requirements

Students in the Administrative Professional program develop new skills for new roles and responsibilities needed in today's fast-paced business settings. As a part of the program, students work for 240 hours in a variety of offices. Upon completion, the students are eligible to sit for the Certified Administrative Professional or Certified Professional Secretary examinations sponsored by the International Association of Administrative Professionals. If they pass the written exam, they will become credentialed as Certified Administrative Professionals or Certified Professional Secretaries after working full time for one year.

The Administrative Professional program is designed to be completed in two years. This assumes, however, that the entering student knows how to type by touch and has been placed at or above the following levels on the Computerized Placement Test: WR 121 English Composition and MTH 065 Elementary Algebra. It is advisable to take the test as early as possible. If developmental coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular degree program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 080 Developing Reading Skills or RD 090 Strategies for Effective Reading (3 credits), WR 090 The Write Course (required if writing score is less than 40th percentile) (4 credits), MTH 060 Introduction to Algebra (4 credits), WR 115 Introduction to College Writing (3 credits).

Facilities

Skills classes are taught in self-paced office laboratory classrooms. New technology is introduced both through concept courses and hands-on experience with modern equipment.

CAREER AND TECHNICAL

Associate of Applied Science in Administrative Professional

General Education Requirements **19**

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements **80-81**

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 125O	Introduction to Windows	1
OA 2.500	Business Orientation[1]	1
OA 2.515	Business Math	2
OA 2.588	Editing Skills for Information Processing	3
OA 2.652	Filing	1
OA 122	Formatting	2
OA 123A	Typing Skillbuilding (2 credits) and	
OA 123B	Advanced Typing Skillbuilding (2 credits) or	
OA 124	Typing: Speed & Accuracy Development (3 credits)	3-4
OA 201	Word Processing for Business: WordPerfect	3
Winter Term		
BA 226	Business Law[1]	3
CIS 125D	Introduction to Databases	1
CIS 125P	Introduction to Presentations	1
CIS 125S	Introduction to Spreadsheets	1
OA 2.513	Numeric Keyboarding: Speed & Accuracy	1
OA 2.513P	Numeric Skillbuilding: Production	1
OA 2.527	Applied Document Processing	3
OA 2.683	Computerized Records Management[1]	3
OA 202	Word Processing for Business: MS Word	3

Spring Term

OA 2.551	Communication in Business	4
OA 2.579	Integrated Software Applications[1]	3
OA 2.616	Job Success Skills	1
OA 2.645	Administrative Procedures I[1]	4
SP 218	*Interpersonal Communication*	*3*

Fall Term - Second Year

BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
BA 285	*Business Relations in a Global Economy* (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
OA 203	Advanced Word Processing	3
PE 231	*Lifetime Health & Fitness*[2]	*3*

Winter Term

BA 2.531	Practical Accounting II	4
OA 2.613	CWE for Office Professionals	4
OA.2.646	Project Management	4
OA 2.682	Desktop Publishing[1]	3
OA 2.690	Preparation for IAAP Certifying Exam	1

Spring Term

BA 2.684	Computerized Accounting	3
MTH 065	*Elementary Algebra*	*4*
OA 2.613	CWE for Office Professionals	4
WR 121	*English Composition*	*3*
	Science, Technology & Society	*3*
	Total Credits Required:	**99-100**

Administrative Professional: Office Management

Program Contact:
Mary Ann Lammers

Additional Faculty:
Rosemarie Hubley, Twila Lehman, Nancy Noe, Sally Stouder

As the use of technology continues to expand in offices in the United States and the world, the role of the Administrative Professional continues to change significantly. Office automation and organizational restructuring has resulted in secretaries and administrative assistants being responsible for tasks once reserved for managerial and professional staffs. The new Administrative Professional "will have to be increasingly self-directed and technically proficient, particularly those working from remote locations" (Office of the Future: 2020, p. 11). The International Association of Administrative Professionals (IAAP) has identified a new Administrative Professional who is capable of handling complex tasks and managing groups of individuals.

The Administrative Professional: Office Management program emphasizes project management, internet/intranet communications and research, document retrieval, customer service and public relations, the ability to take initiative, think logically, and demonstrate problem-solving techniques, and have successful interaction with a variety of personalities.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Administrative Professional: Office Management will

- Function effectively as a team member and/or leaders, including virtual partners.
- Interact effectively in oral and written communications.
- Use project management skills.
- Schedule and maintain calendars for self and others
- Plan meetings, including negotiating hotel contracts, scheduling catering, preparing for cyber-and video-conferenceing
- Plan travel and supporting activities for others
- Perform desktop publishing using both paper and electronic methods.
- Manage multi-tasks efficiently.
- Model professional and ethical behaviors.
- Participate in ongoing professional development.
- Solve problems using a variety of appropriate tools.

Program Requirements

This Office Management program is an option under the Administrative Professional Associate of Applied Science degree.

As a part of the program, students work for 240 hours in a variety of offices. Upon completion, the students are eligible to sit for the Certified Administrative Professional or Certified Professional Secretary examinations sponsored by the International Association of Administrative Professionals. If they pass the written exam, they will become credentialed as Certified Administrative Professionals or Certified Professional Secretaries after working full time for one year.

The Administrative Assistant Professional: Office Management program is designed to be completed in two years. This assumes, however, that the entering student knows how to type by touch and has been placed at or above the following levels on the Computerized Placement Test: WR 121 English Composition and MTH 065 Elementary Algebra. It is advisable to take the test as early as possible. If developmental coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular degree program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 080 Developing Reading Skills or RD 090 Strategies for Effective Reading (3 credits), WR 090 The Write Course (required if writing score is less than 40th percentile) (4 credits), MTH 060 Introduction to Algebra (4 credits), WR 115 Introduction to College Writing (3 credits).

Facilities

Skills classes are taught in self-paced office laboratory classrooms. New technology is introduced both through concept courses and hands-on experience with modern equipment.

CAREER AND TECHNICAL

Associate of Applied Science in Administrative Professional: Office Management (Pending State Approval)

General Education Requirements **19**

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements **80-81**

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 125O	Introduction to Windows	1
OA 2.500	Business Orientation[1]	1
OA 2.515	Business Math	2
OA 2.588	Editing Skills for Information Processing	3
OA 2.652	Filing	1
OA 122	Formatting	2
OA 123A	Typing Skillbuilding (2 credits) and	
OA 123B	Advanced Typing Skillbuilding (2 credits) or	
OA 124	Typing: Speed & Accuracy Development (3 credits)	3-4
PE 231	*Lifetime Health & Fitness*	*3*

1– Courses offered that term only.
2– Other classes may substitute. See advisor.

Winter Term

BA 226	Business Law[1]	3
CIS 125D	Introduction to Databases	1
CIS 125P	Introduction to Presentations	1
CIS 125S	Introduction to Spreadsheets	1
OA 2.513	Numeric Keyboarding: Speed & Accuracy	1
OA 2.513P	Numeric Skillbuilding: Production	1
OA 2.527	Applied Document Processing	3
OA 2.683	Computerized Records Management[1]	3
OA 202	Word Processing for Business: MS Word	3

Spring Term

OA 2.551	Communication in Business	4
OA 2.579	Integrated Software Applications[1]	3
OA 2.616	Job Success Skills	1
OA 2.645	Administrative Procedures I[1]	4
SP 218	*Interpersonal Communication*	*3*
WR 121	*English Composition*	*3*

Fall Term - Second Year

BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
OA 2.650	Management for the Office Professional	3
OA 203	Advanced Word Processing	3
	Science, Technology & Society	*3*

Winter Term

BA 2.531	Practical Accounting II	4
OA 2.613	CWE for Office Professionals	4
OA 2.646	Project Management	4
OA 2.682	Desktop Publishing[1]	3
OA 2.690	Preparation for IAAP Certifying Exam	1

Spring Term

BA 2.684	Computerized Accounting	3
EC 115	*Outline of Economics (4 credits)* (Three credits apply toward general education requirements; one credit applies toward program.)	*(3)1*
MTH 065	*Elementary Algebra*	*4*
OA 2.613	CWE for Office Professionals	4

Total Credits Required: 99-100

Administrative Medical Assistant

Program Contact:
Sally Stouder

Additional Faculty:
Rick Durling, Kathy Durling, Rosemarie Hubley, Mary Ann Lammers, Twila Lehman, Nancy Noe

The Administrative Medical Assistant program prepares students for front office work in physicians' offices, clinics or hospitals. Medical administrative assistants perform office duties that use their knowledge of medical terms and procedures. Duties may include scheduling and receiving patients; transcribing medical reports; obtaining patient's data; maintaining medical records; handling telephone calls, correspondence, reports and manuscripts; and eventually assuming responsibility for office management, insurance matters, coding diagnoses and procedures, office accounts, fees and collections. They can assist physicians with reports, speeches and journal articles. All of these tasks require medical administrative assistants to be experts with medical terms.

A person wanting to become an administrative medical assistant should have the ability to get along well with people and the desire to work in a medical atmosphere. A successful administrative medical assistant must be reliable, must enjoy detail work and must work well under stress, as he/she will be dealing with many different people each day — many of whom are ill.

During his/her second year, a student's work experience consists of 240 hours in a medical administrative assistant or front office position in a clinic or hospital. Students are trained to work independently with minimal supervision. This opportunity provides a bridge between classroom and career.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Administrative Medical Assistant will:

- Function effectively as a team member and/or leaders.
- Interact effectively in oral and written communications.
- Use computers and other technology proficiently for administrative tasks.
- Demonstrate positive interpersonal interactions and diplomacy.
- Manage multi-tasks efficiently.
- Model professional and ethical behaviors, especially confidentiality and compassion.
- Participate in ongoing professional development.
- Solve problems using a variety of appropriate tools.
- Identify process improvement skills.

Program Requirements

The Administrative Medical Assistant program is designed to be completed in two years. This assumes, however, that the entering student already knows how to type by touch and has been placed at or above the following levels on the Computerized Placement Test: WR 121 English Composition and MTH 060 Introduction to Algebra. It is advisable to take the test as early as possible. If developmental coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular degree program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 080 Developing Reading Skills or RD 090 Strategies for Effective Reading (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits), MTH 060 Introduction to Algebra (4 credits), WR 115 Introduction to College Writing (3 credits).

CAREER AND TECHNICAL

Associate of Applied Science in Administrative Medical Assistant

General Education Requirements 19
See Appendix A for graduation requirements for Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements 80-81

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 1250	Introduction to Windows	1
MO 5.630	Medical Terminology & Body Systems I	3
OA 2.500C	Business Orientation: Medical[1]	1
OA 2.588	Editing Skills for Information Processing	3
OA 122	Formatting	2
OA 123A	Typing Skillbuilding (2 credits) and	
OA 123B	Advanced Typing Skillbuilding (2 credits) or	
OA 124	Typing: Speed & Accuracy Development (3 credits)	3-4
OA 202	Word Processing for Business: MS Word	3
Winter Term		
MO 5.414	Drug Names & Classifications	3
MO 5.631	Medical Terminology & Body Systems II	3
MTH 065	*Elementary Algebra*	*4*
OA 2.544	Medical Insurance Procedures	4
OA 2.671	Medical Law & Ethics[1]	3

Spring Term

MO 5.632	Medical Terminology & Body Systems III	3
MO 5.665	Documentation & Screening in the Medical Office	2
OA 2.515M	Business Math Medical I	1
OA 2.515MA	Business Math Medical II	1
OA 2.527	Applied Document Processing	3
OA 2.616	Job Success Skills[1]	1
OA 2.656M	Medical Information Processing	3
OA 2.672	Basic Coding	3

Fall Term - Second Year

CIS 125S	Introduction to Spreadsheets	1
MO 5.625	Basic Clinical Office Procedures	5
OA 2.551	Communications in Business	4
OA 2.670	Medical Office Procedures	4
OA 2.680	Advanced Coding	3

Winter Term

BA 2.530	Practical Accounting I	4
HE 252	*First Aid*	*3*
OA 2.524	Medical Transcription I	3
OA 2.613	CWE for Office Professionals	4
	Science, Technology & Society	*3*

Spring Term

BA 224	*Human Resource Management*	*3*
OA 2.513	Numeric Keyboarding: Speed & Accuracy	1
OA 2.513P	Numeric Skillbuilding: Production	1
OA 2.613	CWE for Office Professionals	4
SP 218	*Interpersonal Communications*	*3*
WR 121	*English Composition*	*3*
	Total Credits Required:	**99-100**

Agricultural Business Management

Program Contacts:
Rick Klampe

Additional Faculty:
Jenny Strooband, Clayton Weber

The Agriculture Business Management curriculum is designed for students who want to complete their lower-division coursework prior to transferring to a four-year institution. It allows for completion of general education requirements as well as the preparatory coursework that precedes specialized course involvement. Agriculture Resource Economics interests also could be pursued. This program is designed to be completed in two years; this assumes that the entering student has placed at or above the following levels on the Computerized Placement Test: WR 121 English Composition and MTH 095 Intermediate Algebra. It is advisable to take the test as early as possible. If developmental coursework is required, it may take longer than two years to complete the program.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Agricultural Business Management will:

- Use business principles and technology successfully in the management of agricultural enterprises and/or as a transfer student.
- Use skills acquired to gain employment in an agriculturally related business.
- Effectively research an agricultural business or management related problem.
- Communicate effectively (written and oral) using appropriate industry vocabulary.
- Apply appropriate computational/accounting skills and utilize technology for successful money management and other record keeping requirements.

Program Requirements

Entering students will progress at a faster rate if they have a firm background in life and physical sciences as well as mathematics. Program completion requires math, chemistry, biology and other baccalaureate core perspectives courses. For electives, students can choose from a varied cross-section of lower-division transfer courses in the field of agriculture. These courses provide practical instructional experiences in the areas of animal science, economics and crop production.

TRANSFER

Associate of Science with an emphasis in Agriculture Business Management

See Appendix C for graduation requirements for the Associate of Science degree. Students who pass a computer proficiency test may substitute another approved course for AG 111 Computers in Agriculture.

General Education Requirements		**43**
Program Requirements		**47-48**
Course No.	Course Title	Credits
AG 111	Computers in Agriculture	2
ARE 211	Management in Agriculture	4
ARE 221	Marketing in Agriculture	3
BA 211	Principles of Accounting: Financial	4
BA 213	Principles of Accounting: Managerial	4
BA 226	Business Law	3
BI 101	*General Biology or*	
BI 102	*General Biology or*	
BI 103	*General Biology*	*4*
CH 121	*College Chemistry* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
EC 201	*Introduction to Microeconomics* (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
EC 202	Introduction to Macroeconomics	4
MTH 111	*College Algebra* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
MTH 241	Calculus for Biological/Management/Social Sciences	4
	Biological or Physical Science	*4*
WR 121	*English Composition*	*3*
WR 214	*Business Communication*	*3*
WR 227	Technical Writing	3
Select additional elective courses in Animal Science, Crop Science, and Fish & Wildlife		*13-14*
	Total Credits Required:	**91-92**

Agriculture

Program Contact:
Stefan Seiter

Additional Faculty:
Rick Klampe, Clayton Weber

The Agriculture program provides a broad range of instructional services. It provides (1) occupational training for students who intend to receive a technical degree and work in agricultural production; (2) supplemental technical training for current agricultural industry employees; (3) instruction for community members interested in specific aspects of agriculture; and (4) instruction for students interested in continuing their education in a four-year college program.

The Agriculture curriculum is based on competencies identified and reviewed by industry representatives and agricultural educators. Students study principles of agronomy, crop science and soil science with an emphasis on sustainable production and ecologically sound management of agricultural resources.

Students develop the skills necessary for entry- and mid-level technical employments and for entering a four-year college program. Typical career fields for graduates of the Agriculture program include agricultural production; plant protection; natural resource conservation; chemical supplies and services; grain, fertilizer, feed, and seed supplies and services; and inspection services.

The Agriculture curricula lead to an Associate of Applied Science degree (AAS) or a One-Year Certificate. Most classes in the Agriculture program are offered during the day, and part-time enrollment is common. Full-time students can complete the AAS degree in two years if they meet prerequisite basic skill requirements as determined through the Computerized Placement Test. Many students start in the middle of the academic year.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science degree in Agriculture will:

- Effectively analyze crop production problems.
- Effectively adapt a cropping system to changing production, market, environmental, social, and regulatory issues.
- Successfully compete in the job market for a position in the agricultural industry.
- Successfully transfer to a four-year agriculture college program.

Students who successfully complete a One-Year Certificate in Agriculture will:

- Effectively analyze crop production problems.
- Effectively manage agricultural crops or production supplies.
- Successfully compete in the job market for a position in the agricultural industry.

Program Requirements

Students are expected to have basic mathematical, reading, and writing skills. To graduate with an AAS degree, students need to complete a four-credit algebra course (MTH 065 Elementary Algebra) in addition to the other general education requirements.

Facilities

Instructional facilities, including crop production fields, a greenhouse, labs, ornamental gardens, and the campus grounds, are used for skill building and demonstrations.

CAREER AND TECHNICAL

Associate of Applied Science in Agriculture

General Education Requirements 19

See Appendix A for graduation requirements for the Associate of Applied Science degree. Courses shown below in italics are general education classes. Students who pass a computer proficiency test may substitute another approved course for AG 111 Computers in Agriculture.

Program Requirements 71

Course No.	Course Title	Credits
AG 111	Computers in Agriculture	2
AG 8.130	Pesticide Safety	4
AG 8.131	Pest Management	3
AG 8.138	Irrigation Systems	3
ARE 211	Management in Agriculture	4
ARE 221	Marketing in Agriculture	3
BI 103	General Biology: The Dynamic Plant	4
CSS 105	Soils & Man	3
CSS 200	Principles of Crop Science	4
CSS 205	Soils: Sustainable Ecosystems	4
CSS 210	Forage Crops	3
CSS 215	Soil Nutrients & Plant Fertilization	3
HORT 260	Organic Farming & Gardening	3
HT 8.102	Career Exploration: Horticulture	1
WE 202	CWE Seminar	1
WE 1.2801	CWE Agriculture	11
MTH 065	*Elementary Algebra*	*4*
SPN 101	*First Year Spanish I*	
	(Three credits apply toward general education requirements; one credit applies toward program)	*(3)*1
	Biological or Physical Science	8
	Additional elective courses (see program advisor to select courses)	6
	Total Credits Required:	**90**

CAREER AND TECHNICAL

One-Year Certificate in Agriculture

Students passing a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

Course No.	Course Title	Credits
AG 111	Computers in Agriculture	2
AG 8.131	Pest Management	3
AG 8.138	Irrigation Systems	3
BI 103	General Biology: The Dynamic Plant	4
CSS 105	Soils & Man	3
CSS 200	Principles of Crop Science	4
CSS 205	Soils: Sustainable Ecosystems	4
CSS 210	Forage Crops	3
CSS 215	Soil Nutrients & Plant Fertilization	3
HT 8.102	Career Exploration: Horticulture	1
	Select 7 credits of math and writing courses at appropriate level based on Computerized Placement Test scores	7
	Total Credits Required:	**37**

Agriculture, General

Program Contacts:
Rick Klampe

Additional Faculty:
Clayton Weber, Stefan Seiter

The General Agriculture curriculum is designed for students who want to complete their lower-division coursework prior to transferring to a four-year institution. It allows for completion of general education requirements, as well as preparatory coursework for continued study in agriculture, agriculture education, horticulture, crop science and rangeland resources.

The program is designed to be completed in two years. This assumes, however, that the entering student has been placed at or above the following levels on the Computerized Placement Test: WR 121 English Composition and MTH 095 Intermediate Algebra. It is advisable to take the test as early as possible. If developmental coursework is required, it may take the student longer than two years to complete the program.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in General Agriculture will:

- Effectively apply general agriculture skills and concepts within the agriculture industry and/or as a transfer student.
- Use skills acquired to gain employment in the agriculture industry.
- Communicate effectively (written and oral) using industry vocabulary.
- Apply appropriate computational/accounting skills and utilize technology for successful money management and other record keeping requirements.

1– Courses offered that term only.

TRANSFER

Associate of Science with an emphasis in General Agriculture

See Appendix C for graduation requirements for the Associate of Science degree. Classes shown in italic are general education classes. Students who pass a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

General Education Requirements		**43**
Program Requirements		**47**
Course No.	Course Title	Credits
AG 111	Computers in Agriculture	2
ARE 211	Management in Agriculture	4
ARE 221	Marketing in Agriculture	3
BA 215	Survey of Accounting	4
BA 226	Business Law	3
BI 101	*General Biology*	*4*
BI 102	*General Biology*	*4*
BI 103	General Biology	4
CH 121	*College Chemistry* (Four credits apply toward general education requirements; one credit applies toward program.)	*(4)1*
CH 122	College Chemistry	5
EC 201	*Introduction to Microeconomics* (Three credits apply toward general education requirements; one credit applies toward program.)	*(3)1*
MTH 111	*College Algebra* (Four credits apply toward general education requirements; one credit applies toward program.)	*(4)1*
	Cultural Diversity	*3*
	Difference, Power & Discrimination	*3*
	Literature & the Arts	*3*
	Western Culture	*3*
PE 231	*Lifetime Health & Fitness*	*3*
SP 111	*Fundamentals of Speech*	*3*
SP 112	Introduction to Persuasion	3
WR 121	*English Composition*	*3*
WR 227	*Technical Writing*	*3*
Select from the electives below		*16*
ANS 121	Introduction to Animal Science	4
ANS 207	Careers in Animal Agriculture	1
ANS 210	Feeds and Feed Processing	4
ANS 211	Applied Animal Nutrition	3
ANS 231	Livestock Evaluation	3
CH 123	College Chemistry	5
CH 241	Organic Chemistry	4
CH 242	Organic Chemistry	4
CH 243	Organic Chemistry	4
CSS 105	Soils & Man	3
CSS 200	Principles of Crop Science	4
CSS 205	Soils: Sustainable Ecosystems	4
CSS 215	Soil Nutrients & Plant Fertilization	3
HORT 226	Landscape Plant Materials	3
HORT 228	Landscape Plant Materials	3
HORT 260	Organic Farming & Gardening	3
FW 251	Principles of Wildlife Conservation	3
MTH 112	Trigonometry	5
MTH 241	Calculus for Bio/Management/Social Sciences	4
MTH 245	Math for Bio/Management/Social Sciences	4
	Total Credits Required:	**90**

Animal Science

Program Contacts:
Rick Klampe

Additional Faculty:
Jenny Strooband, Clayton Weber

LBCC offers all of the lower-division transfer courses that a potential transfer student in Animal Science needs. These courses provide the proper background for those wanting to further their educational goals. Valuable practical instruction assists students in meeting their objectives. Curriculum completion is the first step toward meeting lower-division requirements for students interested in pursuing a career in teaching. Also available are lower-division transfer courses in a variety of agricultural areas that will provide practical background and experiences for anyone entering the field of education.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Animal Science will:

- Effectively apply multiple species animal husbandry skills and concepts within the livestock industry and/or as a transfer student.
- Use skills acquired to gain employment in animal agriculture.
- Effectively research nutrition, management, marketing, health, and reproduction issues.
- Communicate effectively (written and oral) using industry specific vocabulary.
- Apply appropriate computational/accounting skills and utilize technology for successful money management and other record keeping requirements.

Students who successfully complete an Associate of Science degree with an emphasis in Equine Science will:

- Apply equine husbandry skills and concepts successfully as a transfer student.
- Research nutritional, basic management, marketing, health, reproduction and training issues in horses.
- Interact with professionals unique to the equine industry using appropriate vocabulary.
- Manage financial and record keeping operations using appropriate computational skills and technology.

Program Requirements

Students in this program will progress more quickly if they have a firm background in life sciences, physical sciences and math. Program completion requires math, chemistry and biology as well as courses in baccalaureate core perspectives. A cross-section of lower-division agriculture electives are available, providing practical instructional experiences in animal science, economics and crop production.

Facilities

Classes are conducted in modern classrooms and laboratories that have microcomputers, microscopes and other lab equipment for student use. Emphasis is placed on "hands on" experience, and many classes utilize the local livestock producers for in-the-field laboratory exercises.

TRANSFER

Associate of Science with an emphasis in Animal Science

See Appendix C for graduation requirements for Associate of Science degree. Classes shown below in italic are general education classes. Students who pass a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

General Education Requirements **43**

Program Requirements **49**

Course No.	Course Title	Credits
AG 111	Computers in Agriculture	2
ANS 121	Introduction to Animal Science	4
ANS 210	Feeds & Feed Processing	4
ANS 211	Applied Animal Nutrition	3
ANS 231	Livestock Evaluation	3
ANS 278	Genetic Improvement of Livestock	4
ARE 211	Management in Agriculture	4
ARE 221	Marketing in Agriculture	3
BI 211	*Principles of Biology*	*4*
BI 212	Principles of Biology	4
BI 213	Principles of Biology	4
CH 121	*College Chemistry or*	
CH 221	*General Chemistry*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
CH 122	*College Chemistry or*	
CH 222	*General Chemistry*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
CH 123	College Chemistry or	
CH 223	General Chemistry	5
EC 201	*Introduction to Microeconomics*	*3(1)*
	(Three credits apply toward general education requirements; one credit applies toward program.)	
MTH 111	*College Algebra*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
	Cultural Diversity	*3*
	Difference, Power and Discrimination	*3*
	Literature and the Arts	*3*
PE 231	*Lifetime Health and Fitness*	*3*
	Western Culture	*3*
	Speech	*3*
WR 121	*English Composition*	*3*
	Writing Composition	*3*

Select from the electives below *5*

ANS 207	Careers in Animal Agriculture (1 credit)
ANS 215	Applied Beef Production (4 credits)
ANS 216A	Applied Sheep Production (4 credits)
ANS 216B	Applied Swine Production (4 credits)
ANS 220	Introductory Horse Science (4 credits)
BA 215	Survey of Accounting (4 credits)
CSS 200	Principles of Crop Science (4 credits)

Total Credits Required: **92**

Associate of Science with an emphasis in Equine Science

See Appendix C for graduation requirements for Associate of Science degree. Classes shown below in italic are general education classes. Students who pass a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

General Education Requirements **43**

Program Requirements **48**

Course No.	Course Title	Credits
AG 111	Computers in Agriculture	2
ANS 121	Introduction to Animal Science	4
ANS 210	Feeds & Feed Processing	4
ANS 211	Applied Animal Nutrition	3
ANS 220	Introductory Horse Science	4
ANS 221	Equine Industries	3
ANS 222	Young Horse Training	2
ANS 223	Equine Marketing	2
ANS 278	Genetic Improvement of Livestock	4
BI 211	*Principles of Biology*	*4*
BI 212	Principles of Biology	4
BI 213	Principles of Biology	4
CH 121	*College Chemistry*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
CH 122	*College Chemistry*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
CH 123	College Chemistry	5
EC 201	*Introduction to Microeconomics*	*3(1)*
	(Three credits apply toward general education requirements; one credit applies toward program.)	
MTH 111	*College Algebra*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
	Cultural Diversity	*3*
	Difference, Power and Discrimination	*3*
	Literature and the Arts	*3*
PE 231	*Lifetime Health and Fitness*	*3*
	Western Culture	*3*
SP 218	*Interpersonal Communication*	*3*
WR 121	*English Composition*	*3*
WR 227	*Technical Writing*	*3*

Select from the electives below *3*

ANS 215	Applied Beef Production (4 credits)
ANS 216A	Applied Sheep Production (4 credits)
ANS 216B	Applied Swine Production (4 credits)
ANS 231	Livestock Evaluation (3 credits)

Total Credits Required: **91**

Animal Technology

Program Contacts:
Rick Klampe

Additional Faculty:
Jenny Strooband, Clayton Weber

LBCC is the only community college in the Willamette Valley with an Animal Technology program. The program uses the community as a natural instructional laboratory and provides students with knowledge and skills useful for working in production livestock occupations, in entering into livestock-related fields or in transferring to four-year institutions to continue their study.

Farm and ranch workers not only feed, water, groom, and care for livestock, they also examine animals for diseases and provide simple medical care. Occasionally, they help with birthing animals. In addition, they tag or brand animals so owners can identify their livestock. They also build or repair structures, such as fences, and keep barns, stables, pens and kennels clean.

Owners of large farms may hire farm managers, who may oversee most farm activities or focus on a single activity, such as harvesting. These managers supervise and direct other workers and many make managerial decisions. They may set goals for what the farm produces and find the best way to market and sell their products. They consider weather predictions, which animal diseases are in their area, the price of farm products, and federal farm programs. They must decide when to plant, what to grow, and what type of equipment and supplies to purchase. To start new ventures, farmers and farm managers negotiate and secure bank loans. They must keep good financial records and understand federal and state regulations.

LBCC's animal technology courses are designed to provide a maximum of practical experience through hands-on laboratory sessions. Persons already employed in specific agricultural fields can upgrade their skills. Students in the program also have an opportunity to participate in competitive collegiate livestock judging.

Student Learning Outcomes

Students who successfully complete an Applied Science degree in Animal Technology will:

- Effectively apply multiple specie Animal Husbandry skills and concepts within the livestock industry.
- Use skills acquired to gain employment in animal agriculture.
- Effectively research nutrition, management, marketing, health and reproduction issues.
- Interact with professionals unique to the industry using appropriate vocabulary.
- Apply appropriate computational and accounting skills and utilize technology for successful money management and other record keeping requirements.

Program Requirements

The Animal Technology program is designed to be completed in two years. This assumes, however, that the entering student has been placed at or above the following levels on the Computerized Placement Test: WR 115 Introduction to College Writing and MTH 060 Introduction to Algebra. It is advisable to take the test as early as possible. If developmental coursework is required, it may take the student longer than two years to complete the program.

In preparation for the Animal Technology program, high school students should study mathematics, life sciences and physical sciences. Program completion requires a minimum of four credits of math and eight credits of chemistry or biology, plus other general education courses, such as English composition, speech and social science.

Students can take general education courses at night, but the technical classes are offered only during the day. Part-time enrollment is common; students may start in the middle of the school year or enroll for any portion of the program.

Facilities

Classes are conducted in modern, well-equipped classrooms and laboratories. Emphasis is placed on hands-on experience, and many classes utilize the local livestock producers for in-the-field laboratory exercises. Computers, microscopes and other modern lab equipment are available for student use. The college supplies equipment and tools for use during lab sessions.

CAREER AND TECHNICAL

Associate of Applied Science in Animal Technology

General Education Requirements **19**

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes. Students who pass a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

Program Requirements **71**

Course No.	Course Title	Credits
AG 111	Computers in Agriculture	2
ANS 207	Careers in Animal Agriculture	1
ANS 210	Feeds & Feed Processing	4
ANS 211	Applied Animal Nutrition	3
ANS 231	Livestock Evaluation	3
ANS 278	Genetic Improvement of Livestock	4
ARE 211	Management in Agriculture	4
ARE 221	Marketing in Agriculture	3
AT 156	Livestock Diseases & Parasites	3
BI 101	General Biology	4
BI 102	General Biology	4
CSS 205	Soils: Sustainable Ecosystems	4
CSS 210	Forage Crops	3
CSS 215	Soil Nutrients & Plant Fertilization	3
MTH 065	*Elementary Algebra*	*4*
Production Option	*Select two courses from below*	*8*
ANS 215	Applied Beef Production (4 credits)	
ANS 216A	Applied Sheep Production (4 credits)	
ANS 216B	Applied Swine Production (4 credits)	
ANS 220	Introductory Horse Science (4 credits)	
Electives or Approved CWE		*18*
	Total Credits Required:	**90**

Animal Technology: Horse Management

Program Contact:
Jenny Strooband

Additional Faculty:
Rick Klampe, Clayton Weber

The Animal Technology Department offers a two-year Associate of Applied Science degree in Horse Management. This degree provides students with the knowledge and skills useful in entering occupations in the horse industry or in transferring to four-year institutions to continue study. The program uses the local horse community as a natural instructional laboratory, and the courses provide extensive, practical, hands-on experience. The program maintains and operates a small training and breeding facility at which a limited number of student horses may be boarded. The college's seven-acre horse facility is located 1.5 miles from campus.

Job opportunities are varied, depending on the specific interest of the student. Typical jobs open to students completing the Horse Management degree program include stable helper, exercise rider, apprentice trainer, show groom, foaling attendant, breeding assistant and general farm hand. Many students are already working on family horse ranches or at agricultural jobs when they enter the program.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science degree in Animal Technology: Horse Management will:

- Successfully start a young horse and understand basic training concepts necessary to continue training through an advanced level.
- Manage a breeding herd and apply scientific concepts to a breeding program.
- Apply business, health and management concepts necessary to maintain a successful equine facility.
- Research a management or health problem.
- Communicate effectively using appropriate equine industry vocabulary in order to be successful in the job market.

Program Requirements

Students entering the Animal Technology: Horse Management program should have a firm background in life and physical sciences and should be prepared to take courses in mathematics and biology. A mandatory riding evaluation is given at the start of the program to enable proper placement in courses.

The program is designed to be completed in two years. This assumes, however, that the entering student has placed at or above the following levels on the Computerized Placement Test: WR 115 Introduction to College Writing and MTH 060 Introduction to Algebra. It is advisable to take the test as early as possible. Students entering the program with math and writing skills below the minimum requirement may require longer than two years to complete the degree. Program completion requires a minimum of 4 credits of math and 8 credits of biology, plus general education courses such as English composition, speech and social sciences.

Facilities

Classes are conducted in modern well-equipped classrooms and laboratories. Emphasis is placed on hands-on experience, and many classes utilize the local producers for laboratory exercises. In addition, there are computers, microscopes, and other modern lab equipment available for student use.

The training classes are conducted in a modern barn with indoor arena, 28 box stalls and washing and grooming facilities. Students bringing horses to school may board them at the LBCC barn.

CAREER AND TECHNICAL

Associate of Applied Science in Animal Technology: Horse Management

General Education Requirements 19

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes. Students who pass a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

Program Requirements 71

Course No.	Course Title	Credits
AG 111	Computers in Agriculture	2
AG 280B	CWE Animal Technology	5
ANS 121	Introduction to Animal Science	4
ANS 210	Feeds & Feeds Processing	4
ANS 211	Applied Animal Nutrition	3
ANS 220	Introductory Horse Science	4
ANS 221	Equine Industries	3
ANS 222	Young Horse Training	2
ANS 223	Equine Marketing	2
ANS 278	Genetic Improvement of Livestock	4
AT 154	Equine Business Management	3
AT 155	Equine Diseases & Parasites	3
AT 163	Schooling the Horse I	3
AT 164	Schooling the Horse II	3
AT 277A	Horse Breeding Management	2
AT 277B	Horse Breeding Management Lab	2
BI 101	General Biology	4
BI 102	General Biology	4
CSS 210	Forage Crops	3
Select additional elective courses		*11*
	Total Credits Required:	**90**

Anthropology

See Social Science.

Apprenticeship

Program Contact:
Holly DeRamus

The Apprenticeship Office in IA 202 serves as the information center for apprenticeship training on campus. This office provides training and specialized recordkeeping for apprentices employed in the various trade professions in the area. Classes offered at LBCC are for registered apprentices and people interested in becoming apprentices.

To become a registered apprentice, a person must be employed by an employer participating in the state apprenticeship program. Taking apprenticeship classes can give the student credentials for employment into the trades.

Classes currently offered on campus for crafts and trades include: millwright, welder, instrument repairer, machinist, plant electrician, limited and electrical technician, pipefitter and law enforcement. Classes can be attended by the general public but may not count toward attaining journey status without specific trade apprenticeship registration.

Once an apprentice has attained journey status, the journey card can count toward attaining an Associate of Applied Science degree . A journey card or approved CWE credit is required for graduation. Of the required 90 credits, 19 must be general education courses.

Information on entrance procedures and requirements for apprenticeship-related training is available from the Apprenticeship Office, (541) 917-4636.

CAREER AND TECHNICAL

Associate of Applied Science in Crafts and Trades

The journey card or approved CWE credit may replace up to 22 of the program requirements.

General Education Requirements: 19
Program Requirements: 71
Total Credits Required: 90

Art

Program Contact:
Gary Westford

Additional Faculty:
Analee Fuentes, Dori Litzer, Jay Widmer

The art curriculum helps students understand visual art. As a process of that understanding, students develop skills that help them express ideas through art. Foundation studio classes provide experience in drawing, painting, compositional design, color design, 3-D design, photography and ceramics. Lecture courses in art history and understanding art embrace the realm of human experience presented through

art. Historical and cultural perspectives regarding visual expression are explored in all art courses.

The Art Department has well-equipped studios to support instruction in design, drawing, painting, photography and ceramics. In addition, the department has a gallery for the exhibit of both student and professional art work. Facilities are handicapped accessible.

The department offers coursework leading to an Associate of Science degree with an emphasis in Art, including concentrated studies in ceramics, painting/drawing or photography. This degree is designed for students seeking to transfer to four-year institutions as art majors.

Student Learning Outcomes

Students who successfully complete the Associate of Science degree with an emphasis in Art will:

- Understand the significance of art and artists across cultures.
- Think critically about art.
- Demonstrate literacy of the elements and principles of design.
- Develop competence in studio practices.
- Understand form and content in major works of art.
- Apply the creative process in planning, designing and solving visual problems.
- Recognize the potential within each individual for creative expression.

Program Requirements

Lecture classes and beginning studio classes are open to all students. Some second-term studio classes carry prerequisites.

TRANSFER

Associate of Science with an emphasis in Art offering concentrations in Photography, Ceramics, and Drawing/Painting

See Appendix C for graduation requirements for the Associate of Science degree. ART 204, 205, 206 History of Western Art required. Note: No credits may be used for more than one requirement.

General Education Requirements		**43**
Program Requirements		**47**
	Liberal Arts Core Requirements	15
	For a list of Liberal Arts Core Requirements, please refer to Appendix D.	

Course No.	Course Title	Credits
Art Core (16 credits) required of ALL concentrations:		
ART 115	Basic Design I: Composition	4
ART 116	Basic Design II: Color	4
ART 117	Basic Design 3-Dimensional	4
ART 131	Drawing I	4
For an area of concentration choose at least 16 credits from one of the three tracks listed below:		
Drawing/Painting concentration		
ART 132	Drawing II	4
ART 133	Drawing III	4
ART 234	Figure Drawing	4
ART 181	Introduction to Painting	4
ART 281	Painting II	4
Photography concentration		
ART 261	Introduction to Photography	3
ART 262	Color Photography	3
ART 263	Digital Photography	3
ART 264	Intermediate Black & White Photography	3
ART 266	Photography: Art & Technique	3
JN 134	Introduction to Photojournalism	3
ART 280	CWE Fine art	2-3
Ceramics concentration		
ART 154	Ceramics I	4
ART 254	Ceramics II	4
ART 280	CWE Fine Arts	4
ART 198	Independent Studies	4
	Total Credits Required:	**90**

Automotive Technology

Program Contact:
Bryan Schiedler

Additional Faculty:
R.J. Ehlers, Phil Krolick

The Automotive Technology program provides students with the facilities, equipment and instruction necessary to develop professional level skills and abilities in auto mechanical work. Upon completion of the two-year certificate or an Associate of Applied Science degree, students will be prepared to enter the field of automotive technology.

This program prepares students to diagnose, repair and maintain modern automobiles and light trucks including power train systems, steering, suspension and braking systems, electrical systems and electronic controls, automatic transmissions, engine overhaul, air-conditioning service and engine performance. All classes prepare students to pass the ASE certification tests.

Students interested in transfer credits to pursue a Bachelor of Science degree should complete the Associate of Applied Science in Automotive Technology with additional courses of MTH 111 College Algebra and WR 122 English Composition: Argumentation. SP 111 Fundamentals of Speech should be substituted for SP 100. (See program advisors for details.)

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Automotive Technology will:

- Practice safety precautions, to protect yourself, vehicles and the environment.
- Communicate clearly, with team members and customers.
- Develop the skills to advance your knowledge as an automotive technician.
- Conduct yourself on the job with a high degree of professionalism.
- Use service literature and tools efficiently.
- Practice a systematic diagnostic and repair strategy to maintain modern automobiles and light trucks.

Program Requirements

The curriculum is designed to allow student entry into the program at the beginning of each term. Placement into RD 090 Strategies for Effective Reading, MTH 020 Basic Mathematics and meeting with a program advisor is required prior to registration for some courses. Students taking prerequisite courses for WR 121 English Composition and MTH 061 Survey of Math Fundamentals should plan on more than two years to complete the degree requirements.

In addition to the usual books and supplies, students must provide safety glasses, coveralls or lab coat, and a tool set outlined by the Automotive Department.

Facilities

The program is conducted in modern, well-equipped classrooms and laboratory/shops. The automotive technology shop contains equipment for rebuilding and testing components such as engines and transmissions; a four-wheel computerized alignment rack; tune-up and computer control diagnostic equipment; 10 vehicle hoists; engine analyzers and many specialized tools.

CAREER AND TECHNICAL

Associate of Applied Science in Automotive Technology

General Education Requirements **19**

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes. Classes offered during multiple terms may be taken as circumstances dictate.

Program Requirements **81**

Course No.	Course Title	Credits
Fall Term - First Year		
AU 3.295	Power Train Systems	10
AU 3.314	Introduction to Engine Performance	3
WR 121	*English Composition*	*3*
Winter Term		
AU 3.297	Electrical & Electronic Systems	10
AU 3.301	Automotive Service & Repair Practices or CWE	1
AU 3.643	Customer Service	2
MTH 061	*Survey of Math Fundamentals*[2]	*3*
Spring Term		
AU 3.296	Steering/Suspension/Braking Systems	10
AU 3.312	Alternate Fuels	2
MTH 063	*Industrial Shop Math*[2]	*1*
SP 100	*Introduction to Speech Communication*	*3*
	Health & Physical Education	*3*
Fall Term - Second Year		
AU 3.300	Automatic Transmissions & Transaxles[1]	10
AU 3.301	Service & Repair Practices or CWE	1
AU 3.315	Lab Scope Diagnostics	2
	Science, Technology & Society	*3*
Winter Term		
AU 3.299	Automotive Engines[1]	10
AU 3.301	Automotive Service & Repair Practices or CWE	1
AU 3.303	Mobile A/C and Comfort Systems I[1]	3
	Cultural Diversity & Global Awareness	*3*
Spring Term		
AU 3.298	Engine Performance	10
AU 3.304	Mobile A/C and Comfort Systems II[1]	3
AU 3.321	Anti-Lock Brake Systems[1]	3
	Total Credits Required	**101**

CAREER AND TECHNICAL

Two-Year Certificate in Automotive Technology

Classes marked with footnote 1 are offered that term only; all other class sequences may be taken as circumstances dictate.

Course No.	Course Title	Credits
Fall Term - First Year		
AU 3.295	Power Train Systems	10
AU 3.314	Introduction to Engine Performance	3
WR 115	Introduction to College Writing	3
Winter Term		
AU 3.297	Electrical & Electronic Systems	10
AU 3.643	Customer Service	2
MTH 060	Introduction to Algebra	4
Spring Term		
AU 3.296	Steering/Suspension/Braking Systems	10
AU 3.315	Alternate Fuels	2
SP 100	Introduction to Speech Communication	3
	Health & Physical Education	3
Fall Term - Second Year		
AU 3.300	Automatic Transmissions & Transaxles[1]	10
AU 3.301	Automotive Service & Repair Practices or CWE	1
AU 3.315	Lab Scope Diagnostics	2
Winter Term		
AU 3.299	Automotive Engines[1]	10
AU 3.301	Automotive Service & Repair Practices or CWE	1
AU 3.303	Mobile A/C and Comfort Systems I[1]	3
Spring Term		
AU 3.298	Automotive Tune-up & Diagnosis[1]	11
AU 3.304	Mobile A/C and Comfort Systems II[1]	3
AU 3.321	Anti-Lock Brake Systems[1]	3
	Total Credits Required:	**94**

1– Courses offered that term only.
2– Other classes may substitute. See advisor.

Biological Sciences

Program Contact:
Sharon Ketchum

Additional Faculty:
Warren Coffeen, Carolyn Lebsack, Stephen Lebsack, Steve Skarda, Diana Wheat

In addition to offering the Associate of Science degree with an emphasis in Biological Sciences, the Biology Department provides a variety of courses to meet the needs and interests of at least four groups of students:

- Transfer students in majors other than science who take general biology courses to meet their perspectives or science requirement for an Associate of Arts, Associate of Science or bachelor's degree.
- Students who require specific biology courses in order to earn a degree or certificate. For example, students in the Nursing, Dental Assisting and Animal Technology programs are required to take courses such as Human Anatomy and Physiology, Nutrition or Microbiology.
- Science majors in fields such as biology, forestry, fisheries and wildlife, agriculture or pre-medicine who complete their first two years at LBCC, then transfer to a four-year institution. These students enroll in required courses such as Biology or Wildlife Conservation.
- Students who have a general interest in biology, natural history or the environment.

In biology courses, students learn to understand life processes, the diversity of life and the role and responsibility of humans in the natural environment. Most courses are laboratory or field oriented.

The Associate of Science degree with an emphasis in Biological Sciences is a lower-division transfer program designed to assist students planning to complete their baccalaureate studies in a biological science at any four-year institution. The program is primarily designed, however, for students intending to transfer to Oregon State University, where baccalaureate degrees may be earned in biology, microbiology, botany, entomology, general science or zoology. Students completing the degree requirements will be prepared to enroll in upper-division coursework.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Biological Science will:

- Use important concepts, methods, and equipment of biology, mathematics, chemistry and physics to understand and explain biological phenomena.
- Continue to learn about biology and living things, and acquire and apply knowledge in new situations.
- Appreciate the beauty, diversity, and complexity of life, and methods of science used to investigate it.
- Communicate clearly and creatively about scientific questions, and use methods of science to formulate and test hypotheses and devise explanations.
- Appreciate the human and environmental implications and impacts of biological knowledge.

Program Requirements

Students entering this program will progress at a faster rate if they have a firm background in biology and chemistry as well as math.

Facilities

Classes are conducted in modern, well-equipped classrooms and laboratories. Emphasis is placed on hands-on experience and independent inquiry. A full compliment of modern lab equipment such as computers and microscopes is available for student use. Class size is limited, providing an optimal student-teacher ratio.

TRANSFER

Associate of Science with an emphasis in Biological Sciences

See Appendix C for graduation requirements for the Associate of Science degree.

General Education Requirements 43

The mathematics, writing/composition, biological sciences and physical sciences requirements are met by the listed program requirements. Students in Pre-Vet, Pre-Med and Pre-Dental should take CH 221–223. Other areas may require the 200-level sequence. Students should talk with an advisor to determine which chemistry sequence is appropriate.

Program Requirements: 51

Course No.	Course Title	Credits
Fall Term - First Year		
BI 211	*Principles of Biology*	*4*
CH 121	*College Chemistry or*	
CH 221	*General Chemistry*	*4(1)*
MTH 251	*Differential Calculus*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
Winter Term		
BI 212	*Principles of Biology*	*4*
CH 122	College Chemistry or	
CH 222	General Chemistry	5
MTH 252	Integral Calculus	5
Spring Term		
BI 213	Principles of Biology	4
CH 123	College Chemistry or	
CH 223	General Chemistry	5
WR 121	*English Composition*	*3*
Fall Term - Second Year		
CH 241	Organic Chemistry	4
PH 201	General Physics or	
PH 211	General Physics with Calculus	5
WR 227	*Technical Writing*	*3*
Winter Term		
CH 242	Organic Chemistry	4
PH 202	General Physics or	
PH 212	General Physics with Calculus	5
WR 228	Technical Writing II	3
Spring Term		
CH 243	Organic Chemistry	4
PH 203	General Physics or	
PH 213	General Physics with Calculus	5
	Total Credits Required:	**94**

Business Administration

Program Contacts:
Sally Andrews, Paul Jorgensen, Wendy Krislen, Ian Priestman

Additional Faculty:
Jim Byrne, Myrna Gusdorf, Michael Houser, Jack Stone

LBCC offers two programs leading to associate degrees in business administration. Each program is designed to be completed in two years. The program leading to an Associate of Science degree with an emphasis in Business Administration is designed for students planning to transfer to Oregon State University to complete a baccalaureate degree in business administration. It is important that students check with the business transfer curriculum advisor before enrolling in these classes.

The program leading to an Associate of Arts degree with an emphasis in Business Administration prepares students for transfer into any of the major programs in business administration offered by any public four-year university in Oregon, where students may complete requirements for the baccalaureate degree with two additional years of work. Students planning to transfer to any other four-year institution should contact the transfer curriculum advisor before enrolling in any courses.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree or an Associate of Arts degree in Business Administration will:

- Effectively use industry standard computer skills to accomplish tasks and enhance decision-making.
- Communicate effectively using oral, written and technology skills as appropriate.
- Work with team members and successfully interact with internal and external stakeholders. Assume a leadership role.
- Understand and utilize as necessary business theory in the areas of marketing, management, finance, accounting, business law and economics.
- Apply learning as a foundation for completion of a baccalaureate degree at a four year university.
- Understand the multi-cultural, global environment of contemporary business.
- Manage their own career prospects including internships and work experience.

Program Requirements

Students expecting to graduate in two years should have a strong interest in the world of business. They should have sufficient skills in mathematics and writing to enroll in MTH 111 College Algebra and WR 121 English Composition.

2– Other classes may substitute. See advisor.

8– No more than two courses with the same alpha prefix may be used by a student to meet the general education requirement. See an advisor.

TRANSFER

Associate of Science with an emphasis in Business Administration

General Education Requirements **43**

See Appendix C for graduation requirements for the Associate of Science degree. Classes shown below in italic are general education classes.

Program Requirements **53-54**

Course No.	Course Title	Credits
Fall Term - First Year		
BA 101	Introduction to Business	4
BI 101	*General Biology*[2]	*4*
WR 121	*English Composition*	*3*
MTH 111	*College Algebra* (Four credits apply toward general education requirements; one credit applies toward program.)	*(4)1*
Winter Term		
BI 102	*General Biology*[2]	*4*
CIS 125	Introduction to Software Applications	3
ENG 104	*Literature: Fiction*[2]	*3*
MTH 241	Calculus for Biological/Management/Social Sciences	4
PE 231	*Lifetime Health & Fitness*	*3*
Spring Term		
GS 104	*Physical Science: Principles of Physics*[2]	*4*
MTH 245	Math for Biological/Management/Social Sciences	4
SP 111	*Fundamentals of Speech*	*3*
WR 214	*Business Communications*[2]	*3*
	Elective	3
Fall Term - Second Year		
BA 211	Principles of Accounting: Financial	4
BA 226	Business Law	3
EC 201	*Introduction to Microeconomics* (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
	Physical/Biological Science	4-5
Winter Term		
BA 221	Production & Operations Management	3
BA 213	Principles of Accounting: Managerial	4
BA 275	Business Quantitative Methods	4
EC 202	Introduction to Macroeconomics	4
Spring Term		
BA 250	Small Business Management	3
EC 215	*Economic Development of the U.S.*[2,8] (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
EC 220	*Contemporary U.S. Economic Issues*[2,8]	*3*
	Cultural Diversity	*3*
	Electives	*3*
	Total Credits Required:	**96-97**

OREGON TRANSFER

Associate of Arts with an emphasis in Business Administration

Classes shown below in italic are general education classes. See Appendix B for graduation requirements for Associate of Arts Oregon transfer degree.

Course No.	Course Title	Credits
Fall Term - First Year		
BA 101	Introduction to Business	4
BI 101	*General Biology*[2]	*4*
ENG 104	*Literature: Fiction*[2]	*3*
MTH 111	*College Algebra* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
Winter Term		
BI 102	*General Biology*[2]	*4*
CIS 125	Introduction to Software Applications	3
ENG 105	*Literature: Drama*[2]	*3*
MTH 241	Calculus for Biological/Management/Social Sciences	4
WR 121	*English Composition*	*3*
Spring Term		
BI 103	*General Biology*[2]	*4*
ENG 106	*Literature: Poetry*[2]	*3*
MTH 245	*Math for Biological/Management/Social Sciences* (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
WR 122	*English Composition: Argumentation*	*3*
Fall Term - Second Year		
BA 211	Principles of Accounting: Financial	4
EC 201	*Introduction to Microeconomics*	*4*
HUM 101	*Humanities: Prehistory through the Middle Ages*[2]	*3*
SP 111	*Fundamentals of Speech*	*3*
WR 227	*Technical Writing*	*3*
Winter Term		
BA 213	Principles of Accounting: Managerial	4
BA 221	Production & Operations Managment	3
EC 202	*Introduction to Macroeconomics*	*4*
PHL 202	*Elementary Ethics*[2]	*3*
Spring Term		
BA 250	Small Business Management	3
BA 226	Business Law	3
BA 275	Business Quantitative Methods	4
PE 231	*Lifetime Health & Fitness*	*3*
	Social Science	*4*
	Total Credits Required:	**95**

Business Computer Systems

See Network and Systems Administration.

Business and Supervisory Management

Program Contacts:
Sally Andrews, Myrna Gusdorf, Ian Priestman

Additional Faculty:
Jim Byrne, Michael Houser, Paul Jorgensen, Wendy Krislen, Jack Stone

This program is designed to meet the needs of individuals currently supervising or preparing to supervise personnel in a wide variety of business or industry settings. Successful completion should afford the graduate an entry-level position leading to middle-management positions in both public and private firms.

Management and supervisory positions include those in retail business, wholesale firms, specialty buying and selling, public utilities, insurance companies, financial institutions, hotel/restaurant/tourism outlets, real estate agencies, transportation firms and manufacturing industries.

A certificate or degree in supervisory management may also prepare you for a career as an administrative services manager and for supervisory positions such as sales worker supervisors. Administrative services managers coordinate support services for businesses and organizations. Sales worker supervisors direct and manage salespeople, as well as keep track of merchandise and help customers.

Three curriculum options are available. Students may complete an 18-credit program in Basic Supervisory Management, a 45-credit program in Advanced Supervisory Management or the 90-credit program leading to the Associate of Applied Science Degree in Business and

Supervisory Management. To accommodate the needs of working individuals, the program includes a number of classes offered during evening and weekend hours.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Business and Supervisory Management will:

- Effectively use industry standard computer skills to accomplish tasks and enhance decision-making.
- Communicate effectively with all levels of staff using both oral, written and technology skills as appropriate.
- Provide leadership to a diversity of individuals within a variety of organizations.
- Accomplish the goals of the organization through effective utilization of resources.
- Demonstrate the skills and ethical qualities of a responsible individual.

Program Requirements

Students are expected to have a high school diploma or an equivalent GED. Students also should have a high interest in business operation, selling services and/or products to consumers, and managing and motivating people in organizations.

Students should have sufficient math and writing skills to enroll in MTH 065 Elementary Algebra and WR 121 English Composition.

CAREER AND TECHNICAL

Associate of Applied Science in Business and Supervisory Management

General Education Requirements **19**

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements **71**

Course No.	Course Title	Credits
BA 101	Introduction to Business	4
BA 206	Principles of Management	3
BA 215	Survey of Accounting	4
BA 221	Production & Operation Management	3
BA 223	Principles of Marketing	3
BA 224	Human Resource Management	3
BA 226	Business Law	3
BA 250	Small Business Management	3
BA 271	Information Technology in Business	3
BA 280B/C	CWE or	
SD 280	CWE (see advisor)	3-6
BA 285	*Business Relations: Global Economy (4 credits)*.... (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
CIS 125	Introduction to Software Applications	3
EC 115	Outline of Economics	4
EC 220	Contemporary U.S. Economic Issues: Discrimination	3
HE 125	*Occupational Safety & Health*	*3*
HST 150	*Science & Culture in the Western Tradition*	*3*
MTH 065	*Elementary Algebra*	*4*
PE 231	Lifetime Health & Fitness	3
SD 101	Supervision: Fundamentals	3
SD 102	Supervision: Effective Communication	3
SD 103	Issues in Supervision	3
SD 104	Supervision Skills	3
SD 107	Business & Society	3
SP 111	*Fundamentals of Speech*	*3*
WR 121	*English Composition*	*3*
WR 214	Business Communication or	
WR 227	Technical Writing	3
Work with an advisor to select 4-7 electives		*4-7*

Total Credits Required: **90**

CAREER AND TECHNICAL

Certificate in Basic Supervisory Management

Course No.	Course Title	Credits
CIS 125	Introduction to Software Applications	3
HE 125	Occupational Safety & Health	3
SD 101	Supervision: Fundamentals	3
SD 102	Supervision: Effective Communication	3
SD 103	Issues in Supervision	3
WR 121	English Composition	3

Total Credits Required: **18**

CAREER AND TECHNICAL

One-Year Certificate in Advanced Supervisory Management

Course No.	Course Title	Credits
BA 101	Introduction to Business	4
BA 206	Principles of Management	3
BA 224	Human Resource Management	3
BA 271	Information Technology in Business	3
CIS 125	Introduction to Software Applications	3
EC 115	Outline of Economics	4
HE 125	Occupational Safety & Health	3
MTH 065	Elementary Algebra	4
SD 101	Supervision: Fundamentals	3
SD 102	Supervision: Effective Communication	3
SD 103	Issues in Supervision	3
SD 104	Supervision Skills	3
SD 107	Business & Society	3
WR 121	English Composition	3

Total Credits Required: **45**

Business Technology

See the individual listings for Administrative Professional, Administrative Professional: Office Management, Administrative Medical Assistant, Legal Administrative Assistant, Medical Assistant, Medical Office Specialist, Medical Transcriptionist or Office Specialist.

Chef Training

Program Contact:
Scott Anselm

Additional Faculty:
John Jarschke

Chef Training is an extensive hands-on, theory-based program that prepares the student for a career as a professional chef. Students gain skill in virtually all aspects of food preparation, including pantry, bakery, garde manger, grill, sandwich making, ala carte, quantity food, production, soups, sauces and meat preparation.

Chef Training is a complete, comprehensive two-year program based on classical French and European cuisine. Students become skilled at working with virtually all types of standard kitchen equipment and tools. The kitchen provides service for the cafeteria, catering functions, a snack bar and a working sit-down restaurant. By working in this excellent learning environment, students learn to care for and maintain a full-service kitchen.

All aspects of culinary arts are covered, including meats, fish and poultry. Handling and tasting these products is an integral part of many courses. Any student who has any medical, religious, moral or other reasons that may prevent this should make an appointment with the program coordinator prior to registering.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Culinary Arts with a Chef Training option will:

- Reflect a work ethic equal to the high standards of the culinary profession.
- Manage their individual career prospects.
- Understand and utilize necessary basic and advanced culinary theory.
- Use technical and creative skills to accomplish culinary tasks.
- Communicate effectively in business and personal situations using oral and written skills as appropriate.

Program Requirements

Students must be 18 years of age and have a high school diploma or a General Education Development (GED) certificate. They must also possess good basic math and reading skills; be able to work under pressure; demonstrate dexterity, physical stamina, concentration and good memory; and be able to work cooperatively with others. Chefs and dinner cooks must have a food handlers card issued by the health department of the county where they work.

In addition to regular college costs, students spend about $500 to purchase uniforms, knives, shoes, books and other equipment. Students should wait until after the first day of class to purchase these items.

CAREER AND TECHNICAL

Associate of Applied Science in Culinary Arts with a Chef Training Option

General Education Requirements 19

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements 84-86

Course No.	Course Title	Credits
Fall Term - First Year		
CA 8.310	Culinary Arts Practicum I	7
CA 8.336	Food Service Safety & Sanitation	1
CA 8.337	Station, Tools & Culinary Techniques	3
CA 8.345	Service Techniques	1
CA 8.347	Beverage Server Training	1
CA 8.354	Banquet & Buffet Lab E (optional course)	1
Winter Term		
CA 8.311	Culinary Arts Practicum II	8
CA 8.350	Banquet & Buffet Lab A	1
Spring Term		
CA 8.312	Culinary Arts Practicum III	8
CA 8.351	Banquet & Buffet Lab B	2
CA 8.373	Costing	1
Fall Term - Second Year		
CA 8.321	Advanced Cooking Management I	7
CA 8.354	Banquet & Buffet Lab E (optional course)	1
CA 8.368	Creating the Menu	2
CA 8.409	Meats	3
CA 8.419	Nutrition & Special Diets	1
Winter Term		
CA 8.322	Advanced Cooking Management II	7
CA 8.341	Soups & Sauces	3
CA 8.352	Banquet & Buffet Lab C	1
CA 8.355	Banquets & Buffet Planning	2
CA 8.418	Beverage Operations	2
CA 8.421	International Cuisine	2
Spring Term		
CA 8.309	Purchasing for Chefs	2
CA 8.301	Culinary Arts Career Planning	1
CA 8.323	Advanced Cooking Management III	7
CA 8.353	Banquet & Buffet Lab D	2
CA 8.414	Presentation/Garde Manger	2
Other required courses:		
BA 101	Introduction to Business	4
SD 101	Supervision Fundamentals	3

Total Credits Required: 103-105

Chemistry

See Physical Sciences.

Child and Family Studies

Program Contacts:
Jennifer Beudert, Sue Doescher

The Child and Family Studies Program offers a 15-credit Certificate in Childhood Care and Education, a one-year certificate and a two-year Associate of Applied Science degree (AAS) to prepare students to work with infants, toddlers and preschool children.

To prepare graduates for employment in the field of early childhood, the program emphasizes concepts in growth and development, curriculum design, guidance and discipline, and provides opportunities to apply knowledge and skills with children ages 18 months to six years in the Periwinkle Child Development Center (PCDC), the program's on-campus lab school. You must have current inoculations and complete a criminal record check before enrolling in a practicum.

If you are interested in related areas of study, see the following sections of this catalog: child care — see Child Care Provider Training; elementary school teaching — see Education; OSU's Human Development and Family Sciences programs — see Health and Human Sciences; parent education — see Parenting Education.

Some financial aid is available for Child and Family Studies majors. See your advisor for more information.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Child and Family Studies will:

- Work as an effective team member and lead teacher.
- Assess and utilize various types of communication strategies to meet the unique needs of families.
- Link families with appropriate community resources.
- Recognize and honor diversity in interactions with children and families.
- Select from a wide variety of guidance strategies to meet the individual needs of children.
- Adapt learning environments and activities to meet the needs of individual children.
- Plan, implement and evaluate developmentally appropriate learning environments.
- Develop and practice recordkeeping, observation and assessment skills.
- Participate in ongoing professional development.

Students who successfully complete a One-Year Certificate in Child and Family Studies will:

- Work as an effective team member.
- Communicate effectively to establish positive and productive relationships with coworkers and families.
- Recognize a wide range of individual differences among parents and children.
- Develop positive relationships with children that support growth and development.
- Utilize positive guidance techniques.
- Plan, implement and evaluate developmentally appropriate activities.
- Participate in ongoing professional development.

Fall Linked Classes

You may want to consider taking linked classes in your first term. Linked classes integrate the subjects and assignments of two courses. You will learn to communicate clearly, think logically and critically, get along with different kinds of people, and work both independently and in small groups. You'll learn important skills that will benefit you as a teacher by participating in these linked courses. Get more details from your advisor.

Associate of Applied Science Degree in Child and Family Studies

The Associate of Applied Science degree (AAS) is designed for students who plan to enter the workforce upon completing the degree. Graduates with two-year degrees may become teachers of young children in child care centers, family child care homes, Head Start programs or parent cooperatives. They plan and implement developmentally appropriate learning experiences in music, science, art, math, and language arts. They also design indoor and outdoor environments, keep records, and confer with parents. Graduates may also work as program and social service aides. With experience, they can become case managers and social service workers.

Students who complete the AAS in Child and Family Studies may elect to complete additional hours of general education courses and earn an Associate of Arts or Associate of Science transfer degree. This often can be accomplished by completing one additional term of coursework.

The AAS in Child and Family Studies is designed to be completed in two years. This assumes, however, that the entering student meets the prerequisite basic skills requirements as determined by the Computerized Placement Test (CPT). Lower scores on the mathematics and writing CPT may require pre-college courses that will extend completion of the degree.

One-Year Certificate in Child and Family Studies

Completion of the one-year certificate in Child and Family Studies provides students with education and training to become assistant teachers of young children in child care centers or Head Start programs. Graduates may become registered family child care providers. Assistant teachers implement daily educational programs planned by the teacher, maintain the classroom, keep written records, report and record accidents, and communicate with the director and other staff.

Students entering the one-year certificate program may have completed child care provider trainings and career and technical courses offered through LBCC's Family Connections Department. Combinations of short trainings may be used to challenge courses required for the one-year certificate.

The one-year certificate in Child and Family Studies is designed to be completed in one year. This assumes, however, that the entering student meets the prerequisite basic skills requirements as determined by the Computerized Placement Test (CPT). Lower scores on the mathematics and writing CPT may require pre-college courses that will extend completion of the certificate.

Students who earn the certificate will have completed 46 credit hours of the 90-credit Associate of Applied Science degree in Child and Family Studies. Graduates may apply some of their certificate program credit hours toward a transfer degree.

Certificate in Childhood Care and Education

Students just entering the field of early childhood or those child care providers who have not taken credit classes can earn a Certificate by completing 15 credit hours of the 46-credit One-Year Certificate in Child and Family Studies.

CAREER AND TECHNICAL

Associate of Applied Science in Child and Family Studies

General Education Requirements 19

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italics are general education classes.

Program Requirements 71

Course No.	Course Title	Credits
Fall Term - First Year		
ED 101	Observation & Guidance	3
HDFS 225	Child Development	3
HDFS 248	Learning Experiences for Children	3
HDFS 249	Infant & Toddler Care	3
WR 121	*English Composition*	*3*
Winter Term		
ED 7.710	Principles of Observation	3
ED 7.731	Positive Guidance for Young Children	3
ED 102	Education Practicum	3
ED 152	Creative Activities/Dramatic Play	3
ED 282	Working with Children with Special Needs	3
Spring Term		
ED 103	Extended Education Practicum	3
ED 179	Literature, Science & Math	3
ED 7.715	Developing Family-School Partnerships	3
MTH 060	Introduction to Algebra	4
SP 218	*Interpersonal Communication*	*3*
Fall Term - Second Year		
HDFS 233	Professional Foundations in Early Childhood	3
HE 252	*First Aid*	*3*
MTH 065	*Elementary Algebra (or higher)*	*4*
	Electives	4
Winter Term		
ENG 221	*Children's Literature*	*3*
	Science, Technology & Society	*3*
	Electives	6
Spring Term		
ED 104	Advanced Practicum or Electives	12
HDFS 222	Partner & Family Relationships	3
HDFS 261	Working with Individuals & Families	3
	Total Credits Required:	**90**

CAREER AND TECHNICAL

One-Year Certificate in Child and Family Studies

Course No.	Course Title	Credits
Fall Term		
ED 101	Observation & Guidance	3
HDFS 225	Child Development (3 credits) or	
ED 7.730	Early Childhood Ages & Stages	3
HDFS 248	Learning Experiences for Children	3
SP 218	Interpersonal Communication	3
SS 090	Study Skills	3
WR 090	The Write Course (4 credits) or	
WR 095	College Writing Fundamentals (or higher)	3-4
Winter Term		
ED 7.710	Principles of Observation	3
ED 7.731	Positive Guidance for Young Children	3
ED 102	Education Practicum	3
ED 152	Creative Activities/Dramatic Play	3
ED 282	Working with Children with Special Needs	3
Spring Term		
ED 103	Extended Education Practicum	3
ED 179	Literature, Science & Math	3
ED 7.715	Developing Family-School Partnerships	3
HDFS 233	Professional Foundations in Early Childhood	3
MTH 020	Basic Mathematics (or higher)	4
	Total Credits Required:	**49-50**

CAREER AND TECHNICAL

Certificate in Childhood Care and Education

Course No.	Course Title	Credits
ED 7.731	Positive Guidance for Young Children	3
ED 7.710	Principles of Observation	3
	Elective (see advisor for approved list)	3
ED 7.730	Early Childhood Ages & Stages (3 credits) or	
HDFS 225	Child Development	3
HDFS 248	Learning Experiences for Children (3 credits) or	
ED 152	Creative Activities/Dramatic Play	3
	Total Credits Required:	**15**

Civil Engineering Technology

Program Contact:
David Kidd

Students in the Civil Engineering Technology certificate program are trained to work as surveyors, drafters, and designers in civil engineering and surveying offices. Civil engineering technicians help engineers plan and build roadways, utilities and structures. Engineering technicians work with the design, surveying, construction and inspection of engineering projects. Technicians' duties are more hands-on and limited in scope than those of engineers.

Engineering technicians need knowledge in the following areas: mathematics, including algebra, geometry and trigonometry; computer usage; structural analysis; surveying; construction specifications and techniques; drafting and reading plans; engineering design methods; and use of the English language.

Graduates of this certificate program can expect to work as entry-level engineering technicians. However, students are encouraged to complete a two-year associate's degree to improve their employability. Students can either complete the Associate of Applied Science degree in Drafting and Engineering Graphics Technology at LBCC concurrently with the Civil Engineering Technology certificate or continue their education at Chemeketa Community College, where they can complete an Associate of Applied Science degree in Civil Engineering Technology.

Student Learning Outcomes

Students who successfully complete a certificate in Civil Engineering will:

- Use AutoCAD®, Windows®, civil drafting software and GIS software.
- Visualize and interpret real world situations and translate them into drawings and designs.
- Use surveying equipment to perform basic land and construction surveys.
- Speak and write effectively.
- Think critically to solve engineering problems.
- Work effectively on a team to complete an engineering project.

Program Requirements

A student entering the program with a solid background in mathematics and computer usage can expect to complete the program in four terms. Many of the courses listed as fall term first-year courses have prerequisites, so entering students who are deficient in reading, mathematics or writing will need more time to complete the certificate.

The program emphasizes the use of mathematics and computers in engineering work. The curriculum starts with background courses in math, drafting, and CAD and works up to project surveys and public works designs. Students in the program should have a strong aptitude for math and computers, and should expect to work outdoors. Students who are well-prepared in math and computer usage can start at terms other than fall term and take some night classes, as well as daytime classes. Some students attend part time.

Facilities

Classes are held in well-equipped classrooms and laboratories. Computers are used extensively with current versions of AutoCAD®, Civil 3D®, and TDS® survey software. Modern survey instruments also are used, including automatic levels, total stations and GPS equipment.

CAREER AND TECHNICAL

Certificate in Civil Engineering Technology

Course No.	Course Title	Credits
Fall Term		
EG 4.409	Drafting I	2
EG 4.411	CAD I	4
MTH 097	Practical Geometry	4
WR 121	English Composition	3
Winter Term		
EG 4.421	CAD II	4
EG 4.455	Structural Drafting	2
MTH 111	College Algebra	5
WW 6.235	Applied Hydraulics	3
Spring Term		
CE 6.422	Introduction to GIS	2
CEM 263	Plane Surveying	3
EG 4.456	Civil Drafting Lab	1
EG 4.446	Strength of Materials	3
MTH 112	Trigonometry	5
WW. 6.167	Water Distribution & Collection Lab	1
Fall Term		
CE 6.444	Civil Design Lab	1
CE 6.488	Advanced Surveying & Land Development	4
DRF 245	Civil Drafting & Design (Chemeketa)*	4
HE 112	Emergency First Aid	1
CIS 125S	Introduction to Spreadsheets	1
CWE 1.280R	Cooperative Work Experience	1
	Total Credits Required:	**54**

**Note: Offered fall term through Chemeketa College. This requirement can also be met by taking EG 4.465, Civil Drafting II, at LBCC winter term. See program advisor for details.*

CNC Machinist

See Machine Tool Technology.

Collision Repair Technology

Program Contact:
Tom Smithburg

Students in the Collision Repair program develop the skills and knowledge necessary for vehicle collision repair and refinishing. Individuals become well versed in welding and metal work, painting and refinishing procedures, techniques, products, equipment and safety.

Graduates of the Collision Repair Technology program will find that job opportunities include: auto collision repair technician, auto refinisher/painter's helper, auto collision estimator/insurance adjustor, parts and inventory specialist, equipment manufacturer representative, parts and supply delivery, motor home repairing/refinishing, shipyard painting, heavy equipment repairing/painting, industrial/house painter, boat repair technician and various safety occupations.

In small shops, repairers may do the painting as well as the bodywork. Auto body repairers who work in small shops may inspect damaged vehicles, they write up estimates of repair costs for customers and insurance companies, and do simple mechanical repairs. Repairers use computers to keep records, send bills and write estimates.

Because automotive parts, body materials and electronic systems change constantly, auto body repairers must continually update their skills and knowledge. They read technical manuals and attend classes to keep up to date on repair methods.

Many auto body repairers are also business owners who must keep track of income and expenses, as well as pay all the bills, purchase supplies, select advertising, and hire and fire employees.

Student Learning Outcomes

Students who successfully complete a certificate in Collision Repair Technology will:

- Assess damage, estimate cost and make non-structural repairs on vehicles.
- Prepare a panel for refinishing.
- Apply topcoat to a panel.
- Work to ensure personal and public safety in the work site.
- Present oneself well in employment search and interactions with collision repair professions.
- Function on the job in a manner that ensures continued employment.

Program Requirements

The department recommends that students enter the program in September (fall term). Admission is possible at the beginning of winter term, depending on available space at that time and/or the student's previous experience. Completion of the collision repair program in the nine months time is contingent upon entering with minimum writing and math placements of WR 115 Introduction to College Writing and MTH 020 Basic Math.

Because of the variety of working conditions, a person generally should be in good physical condition and be able to stand, stoop, kneel and bend. Good eyesight, especially color perception, is necessary.

Personal qualities desirable in a collision repair craftsperson include preciseness and creativity. As with most career fields, the ability to get along with others is a valuable asset. The program requires that students have the initiative to work on class projects independently.

The program provides variable credit, hands-on instruction in an industry-type environment. Block classes are held Monday through Thursday. Additional technical coursework is scheduled on Friday.

Previous collision repair experience may be accredited through a performance test and/or written test. Talk with a program advisor at (541) 917-4585 for more information.

LBCC policy in accordance with OSHA Personal Protective Equipment Code (OSHA 1910.132) and the Respirator Protection Code (OSHA 1910.134), REQUIRES students to complete and pass an occupational medical screening in order to wear a respirator, which is a required part of the collision repair program. The screening consists of a questionnaire that is evaluated by an OccMed provider. The approximate cost is $30 or more. The instructor must receive confirmation that you have passed the screening by the end of the first week of class. Without this confirmation, you cannot participate in the collision repair and refinishing class.

Facilities

Instruction is provided in the classroom and in a modern, well-equipped laboratory/shop facility. The labs are completely equipped for auto collision repair and refinishing.

The labs include a student training office, fireproof paint mixing and storage room, truck-size factory-installed paint booth, and a paint preparation room. Equipment includes eight portable dent pullers, plasma cutter, fresh air respirator system for painting, double-size glass bead machine, electric portable hoist and six gas metal arc welders (GMAW).

In addition to the laboratory activities, lectures are supplemented by audio and video presentations, seminars and special workshops. Field trips and contract training sessions in cooperation with industry personnel are planned.

CAREER AND TECHNICAL

One-Year Certificate in Collision Repair Technology

Course sequence required for students beginning fall term.

Course No.	Course Title	Credits
Fall Term		
CR 3.511	Collision Repair & Refinishing Basics	12
MTH 020	Basic Math	4
CR 3.518	Collision Repair Welding I	2
Winter Term		
CR 3.512	Collision Repair & Refinishing Procedures	12
CR 3.519	Collision Repair Welding II	2
WR 115	Introduction to College Writing	3
Spring Term		
CR 3.513	Shop Procedures	12
WE 1.280X	CWE Auto Body Repair	1
	Total Credits Required:	**48**

Computer Programming

See Computer Science.

Computer Science

Program Contacts:
Dodi Coreson

Additional Faculty:
David Becker, Linda Carroll, Joe Paris, Parker Swanson

Computer Science is the study of programming, data storage and retrieval, and computing machinery and the interaction with people. Graphics, artificial intelligence, robotics and expert systems are some of the products of computer science. This is an exciting career area that affects many aspects of our lives.

The LBCC Computer Science program provides students with the first two years of a four-year degree program. Upon successful completion of these requirements, the student receives an Associate of Science degree. For students choosing to go on to OSU, three options are listed that coordinate with the degree OSU offers: Computer Science — Information Systems (programming with a minor in business); Computer Science — Applied Computer Science) combination of computer science and a related field (i.e., multimedia); and Computer Science — Computer Systems (software developing).

Computer Science students need to decide where they will complete their four-year degree and should see an LBCC advisor for assistance in taking the courses required at the various four-year institutions.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Computer Science will:

- Develop algorithms to solve computer-related problems.
- Write programs using object-oriented data structures and object-oriented design.
- Apply procedural programming paradigms to computer programs.
- Identify problems and design solutions.
- Use various data structures as problem-solving tools including arrays, stacks, queues, linked lists and trees.
- Be prepared to transfer to a four-year institution.
- Work effectively and communicate in a professional environment both in writing and verbally.
- Solve problems within a group or team.

Program Requirements

LBCC's program is designed to be completed in two years. This assumes, however, that the entering student is prepared to take MTH 111 College Algebra or MTH 251 Differential Calculus (whichever is appropriate for the chosen option), CS 160 Orientation to Computer Science, and WR 121 English Composition. If this is not the case, the student needs to allow extra time to complete this degree.

Facilities

Students in the Computer Science program will spend considerable time in the computer lab working on networked microcomputers. The lab is well-equipped with modern hardware and software. Students have access to networked IBM-compatible personal computers for completing assignments.

TRANSFER

Associate of Science with an emphasis in Computer Science – Information Systems/ Applied Computer Science

See Appendix C for graduation requirements for the Associate of Science degree.

General Education Requirements 43
Classes shown below in italic are general education classes.

Program Requirements 52-53

Course No.	Course Title	Credits
Fall Term - First Year		
	Biological Science	4
CS 160	Orientation to Computer Science	4
MTH 111	*College Algebra* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
WR 121	*English Composition*	*3*
Winter Term		
CS 161	Introduction to Computer Science (Java)	4
	Literature & the Arts	*3*
MTH 112	Trigonometry	5
WR 214	*Business Communication*	*3*
Spring Term		
CS 162	Introduction to Computer Science II (Java)	4
	Difference, Power & Discrimination	*3*
MTH 251	Differential Calculus	5
PE 231	*Lifetime Health & Fitness*	*3*
SP 111	*Fundamentals of Speech*	*3*
Fall Term - Second Year		
CS 260	Data Structures (Java)	4
	Biological or Physical Science	*4-5*
	Cultural Diversity	*3*
MTH 252	Integral Calculus	5
Winter Term		
CS 275	Database Systems: SQL/Oracle	4
EC 201	*Introduction to Microeconomics*[2] (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
MTH 231	Elements of Discrete Mathematics	4
	Western Culture	*3*
Spring Term		
CS 133U	Programming in C++	4
CS 271	Computer Architecture & Assembly Language	4
MTH 232	Elements of Discrete Mathematics	4
	Physical Science	*4*
	Total Credits Required:	**95-96**

2– Other classes may substitute. See advisor.

TRANSFER

Associate of Science with an emphasis in Computer Science – Computer Systems

See Appendix C for graduation requirements for the Associate of Science degree.

General Education Requirements 43
Classes shown below in italic are general education classes.

Program Requirements 48

Course No.	Course Title	Credits
Fall Term - First Year		
	Biological Science	*4*
CS 160	Orientation to Computer Science (Java)	4
MTH 251	*Differential Calculus* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
WR 121	*English Composition*	*3*
Winter Term		
CS 161	Introduction to Computer Science (Java)	4
	Cultural Diversity	*3*
	Literature & the Arts	*3*
MTH 252	Integral Calculus	5
Spring Term		
CS 162	Introduction to Computer Science II (Java)	4
	Difference, Power & Discrimination	*3*
PE 231	*Lifetime Health & Fitness*	*3*
SP 111	*Fundamentals of Speech*	*3*
Fall Term - Second Year		
CS 260	Data Structures (Java)	4
	Western Culture	*3*
MTH 254	Calculus	4
PH 211	*General Physics with Calculus* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*

Winter Term		
CS 275	Database Systems: SQL and Oracle	4
MTH 231	Elements of Discrete Mathematics	4
PH 212	*General Physics w/ Calculus*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
	Social Processes & Institutions	*3*
Spring Term		
CS 133U	Programming in C++	4
ENGR 271	Digital Logic Design	4
MTH 232	Elements of Discrete Mathematics	4
PH 213	*General Physics with Calculus*	*5*
	Total Credits Required:	**91**

Computer User Support

Program Contact:
Dodi Coreson

Additional Faculty:
David Becker, Linda Carroll, Joe Paris, Parker Swanson

Computer User Support classes prepare students for entry-level positions that provide technical support, assistance, software support, Web support, network support, troubleshooting, training and documentation to end users. Common entry-level job titles include End-User Computer Support Specialist, Help Desk Assistant, Computer Lab Assistant, Computer Services Representative, Network Support Assistant, Software Trainer and Documentation Specialist.

Computer support specialists determine a company's computer needs and locate computers or software that meet those needs. They install software following manufacturers' guidelines. At larger companies, specialists may develop training materials and teach staff how to use new software, as well as supervise other computer support staff.

Computer support specialists test or monitor systems to locate the problems. They may read technical manuals to learn more about what to do. Once they have some ideas, specialists make repairs. This may mean reinstalling software or replacing hardware that is not working. Some computer support specialists help customers who bought products from computer hardware and software vendors. Unlike computer support specialists who help their coworkers, these specialists do not have access to the computers that are not working. These specialists communicate with customers by telephone or e-mail and may teach customers how to use software or talk them through how to install software or replace hardware.

Because computer hardware and software are constantly changing, support specialists must be aware of developments in the field. They may attend conferences and trainings or read magazines to learn about changes. The second year also includes valuable cooperative work experience in the information technology field, arranged with one of a number of local public or private organizations.

Certificate in Web Design

The Certificate in Web Design is a 12-credit certificate that focuses on skills specific to Web site creation. It is ideal for those who would like to learn skills to set up and maintain a personal or business Web site. The required courses can all be applied towards the Computer User Support two-year Associate of Applied Science degree. This certificate is designed to be completed in three terms. This assumes that students have had sufficient basic Web publishing experience (as determined by one of the program advisors) equivalent to the Web skills learned in BA 271 Information Technology in Business.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree in Computer User Support will:

- Respond to and prioritize Help Desk requests from a remote site.
- Provide technical support for hardware/software and networks.
- Assist, train end users, and troubleshoot problems.
- Research a solution to troubleshoot a problem including using the Web, etc.
- Develop/create documents, problem resolutions, and recognition of problem patterns for Help Desk processes and procedures end user support log using appropriate software to log trouble shooting procedures.
- Pass CISCO certification exam.
- Work effectively and communicate in a technical support environment both in writing and verbally.
- Solve problems within a group or team.
- Demonstrate professional interpersonal skills while dealing with people with technical problems and write directions they can follow.
- Supervise and manage employees.

Program Requirements

Students expecting to graduate in this program should have good people skills, as well as a strong interest in working with computers.

Facilities

Computer facilities are provided by the Forum Computer Lab and the Business and Computer Systems Division. The lab is well-equipped with modern hardware and software. Students have access to networked IBM-compatible personal computers for completing assignments.

CAREER AND TECHNICAL

Associate of Applied Science in Computer User Support

General Education Requirements 19
See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements 79

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 125	Introduction to Software Applications	3
CIS 151	Networking Essentials	4
	Health or Activity Course	*1*
MTH 095	*Intermediate Algebra (or higher)*	*4*
WR 121	*English Composition*	*3*
Winter Term		
BA 101	Introduction to Business	4
BA 271	Information Technology in Business	3
BA 285	*Business Relations in a Global Economy (4 credits)* (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
CS 145	Hardware/Software Selection & Support	3
WR 227	Technical Writing	3
Spring Term		
CIS 135S	Advanced Spreadsheets	3
CS 160	Orientation to Computer Science	4
CS 140U	Fundamentals of UNIX/Linux	4
	Health or Activity Course	*1*
SP 100	*Introduction to Speech Communication*	*3*
Fall Term - Second Year		
CIS 195	Web Development I	4
CS 227S	Systems Support: Software	3
	Health or Activity Course	*1*
CS 279	Network Management	4

Winter Term

CS 133J	Java Script	4
CS 180	Supervised Computer Practicum	2
CS 227H	Systems Support: Hardware	3
CS 244	Systems Analysis & Project Management	4
CS 275	Database Systems: SQL & Oracle	4

Spring Term

CIS 295	Web Development II	4
CS 133V	Visual Basic I	4
CS 225	End User Computing Support	4
	Health or Activity Course	1
CS 280	CWE Computer Systems	3
	Science, Technology & Society	*3*
SD 104	Supervision Skills	3
WE 202	CWE Seminar	1
	(WE 202 must be taken with CS 280)	
	Total Credits Required:	**98**

CAREER AND TECHNICAL

Certificate in Web Design

Fall Term

CIS 195	Web Development I	4

Winter Term

CS 133J	Javascript	4

Spring Term

CIS 295	Web Development II	4
	Total Credits Required:	**12**

Construction and Forestry Equipment Technology

Program Contact:
Steve Pearson, John Alvin Jr.

The Construction and Forestry Technology Program is a two-year program leading to an Associate of Applied Science Degree. The program develops the technical competency and professional attributes of students to prepare graduates for high-paying and rewarding jobs as John Deere construction and forestry equipment technicians.

The program begins fall quarter of each year. The total program is designed to be completed in six quarters. Each specialized subject is studied in the classroom and laboratory on campus. Cooperative Work Experience is also included in the curriculum. Students are selected to participate in the Construction and Forestry Equipment Technology program through an interview process with a sponsor John Deere Construction and Forestry Equipment Dealership. Selected students will receive assistance with tuition and tools from the sponsor dealership.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science degree in Construction and Forestry Equipment Technology program will:

- Achieve a high level of craftsmanship and professionalism.
- Inspect, diagnose, and conduct failure analysis and preventive maintenance inspections during repairs.
- Use service resources effectively.
- Apply fundamental skills and concepts to unfamiliar situations.
- Provide superior customer service.
- Follow safe shop practices.
- Select and maintain appropriate tools.
- Communicate effectively in writing and verbally, and practice productive interpersonal relations.
- Use service advisor and PM Pro.

Program Requirements

The Associate of Applied Science degree requires completion of English composition (WR 121), speech and math, usually in the first year, to acquire the degree in two years. Only students beginning their program during the fall term can be assured of completing the program in two years. Students enrolling at other times may need more than six terms to complete degree requirements.

Facilities

The program is conducted in modern, well-equipped classrooms and laboratory/shops. The 25,000-square-foot Heavy Equipment Mechanics/Diesel facility houses a dynamometer and heavy-duty engine rebuilding lab. Students also have a large area where they can work on construction and forestry equipment and components.

CAREER AND TECHNICAL

Associate of Applied Science in Construction and Forestry Equipment Technology

General Ed Requirements: **19**

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes. All other class sequences may be taken as circumstances dictate.

Program Requirements: **78**

Course No.	Course Title	Credit
Fall Term – First Year		
CT 3.297	Electrical & Electronic Systems	10
WD 4.151	Welding I	2
MA 3.396B	Manufacturing Processes I	2
CT 3.123	Fundamental Shop Skills	3
Winter Term		
CT 3.146	Pneumatic Brakes and Controls	5
CT 3.134	Basic Hydraulics	3
WD 4.152	Welding II	2
MTH 061	*Survey of Math Fundamentals*	*3*
SP 100	*Introduction to Speech Communication*	*3*
Spring Term		
CT 3.296	Steering, Suspension, & Brakes	5
CT 3.132	Advanced Mobile Hydraulics	5
CT 3.644	Deere Level I Certifications	1
MTH 063	*Industrial Shop Math*	*1*
WR 121	*English Composition*	*3*
Summer Term		
WE 1.280 CWE		3
Fall Term – Second Year		
CT 3.295	Power Train Systems	10
CT 3.643	Customer Service	2
	Cultural Diversity & Global Awareness	*3*
Winter Term		
CT 3.129	Heavy Equipment Diesel Engines	7
CT 3.140	Industrial Diesel Engine Fuel Systems	3
HE 252	*First Aid*	*3*
	Science, Technology, & Society	*3*
WE 1.280	CWE	1
Spring Term		
CT 3.130	Heavy Equipment/Diesel Tune-Up	10
CT 3.303	Mobile AC & Comfort Systems I	3
CT 3.645	Deere Level 2 Certifications	1
	Total Program Credits:	**97**

Crafts and Trades

See Apprenticeship program.

Criminal Justice

Program Contact:
Rodney Carter

Oregon law enforcement agencies are facing a growing need to replace large numbers of retiring officers. In addition, the prison industry and areas of law enforcement such as crime analysis are predicted to expand in the 21st century. Law enforcement agencies commonly seek candidates who have a minimum of a two-year degree, and many give preference to candidates with four-year degrees. In addition, agencies look for candidates who can demonstrate they have the qualities necessary for success in the law enforcement field—candidates who:

- can think critically, problem solve and construct quick, practical solutions;
- have excellent interpersonal, written and verbal communication skills;
- are nonjudgmental about the diverse populations of people;
- can pass stringent tests, background checks, and psychological assessments.

The Criminal Justice program can help prepare you meet the stringent requirements for employment in the highly competitive field of law enforcement. The program is designed to help you gain critical thinking and communication skills that will make you a competitive candidate for an exciting and rewarding career in law enforcement. You will have opportunities to form ties with local police agencies and gain experience with ethnic and cultural diversity through work at a local community service agency.

Student Learning Outcomes

Students who successfully complete the Associate of Applied Science or Associate of Arts degree in Criminal Justice will:

- Communicate effectively, both verbally and in writing
- Understand and properly apply criminal statutes.
- Recognize criminal conduct.
- Apply key U.S. Supreme Court cases to real-life situations.
- Present as a viable candidate for law enforcement/corrections work.
- Develop strategies for coping with the stressors associated with police/corrections work.
- Understand the role and procedures of the criminal court system.

CAREER AND TECHNICAL

Associate of Applied Science in Criminal Justice

General Education Requirements: **19**
See Appendix A for graduation requirements for the Associate of Applied Science degree.

Program Requirements: **71**

Course No.	Course Title	Credits
CJ 100	Survey of Criminal Justice Systems	3
CJ 101	Introduction to Criminology	3
CJ 110	Introduction to Law Enforcement or	
CJ 210	Introduction to Criminal Investigation	3
CJ 120	Introduction to Judicial Process	3
CJ 130	Introduction to Corrections	3
CJ 230	Juvenile Corrections	3
CJ 201	Juvenile Delinquency	3
CJ 202	Violence & Aggression	3
CJ 211	Ethical Issues in Law Enforcement	3
CJ 220	Substantive Law	3
CJ 222	Procedural Law	3
CJ 226	Constitutional Law or	
PS 252	Constitutional Law	3
WR 227	Technical Writing	3
	Electives (You are encouraged to select courses in sociology, psychology, writing, speech, computer science, and CWE to meet your elective requirements. A limited number of courses outside these areas will be accepted as electives.)	*32*
	Total Credits Required:	**90**

CAREER AND TECHNICAL

One-Year Certificate in Juvenile Corrections

Course No.	Course Title	Credits
CJ 101	Introduction to Criminology	3
CJ 201	Juvenile Delinquency	3
CJ 203	Crisis Intervention	1
CJ 230	Introduction to Juvenile Corrections	3
CJ 232	Introduction to Corrections, Counseling & Casework	3
CJ 280A	Cooperative Work Experience	5
HS 205	Youth Addiction	3
MTH 065	Elementary Algebra	4
PSY 201	General Psychology	3
PSY 202	General Psychology	3
PSY 203	General Psychology	3
PSY 215	Introduction to Developmental Psychology	3
PSY 219	Introduction to Abnormal Psychology	3
SOC 206	General Sociology	3
WR 121	English Composition	3
	Total Credits Required:	**46**

OREGON TRANSFER

Associate of Arts with an emphasis in Criminal Justice

The AAOT is designed as a general course of study that will transfer to a four-year institution. This is a *suggested* course of study for the Criminal Justice transfer student. These courses are suggested to assist the criminal justice major in acquiring the skills necessary to be successful in the field of corrections, law enforcement and juvenile corrections. Please contact your advisor for assistance when scheduling your classes.

See Appendix B for graduation requirements for the Associate of Arts degree. Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
CJ 100	Survey of Criminal Justice Systems	3
MTH 105	*Introduction to Contemporary Mathematics*	*4*
OA 202	Word Processing: MSWord	3
PE 231	*Lifetime Health & Fitness*	*3*
WR 121	*English Composition*	*3*
Winter Term		
BI 102	*General Biology*	*4*
CJ 101	Introduction to Criminology	3
ENG 104	*Literature: Fiction*	*3*
SP 218	*Interpersonal Communication*	*3*
WR 122	*English Composition: Argumentation*	*3*
Spring Term		
CJ 110	Introduction to Law Enforcement	3
ENG 105	*Literature: Drama*	*3*
HS 205	Youth Addiction	3
PE 194K	Defensive Tactics	2
WR 227	*Technical Writing*	*3*
	Math/Science/Computer Science	*3*

Fall Term - Second Year		
CJ 130	Introduction to Corrections	3
ENG 106	*Literature: Poetry*	*3*
GS 106	*Physical Science: Principles of Earth Sciences*	*4*
PSY 201	*General Psychology*	*3*
SOC 204	*General Sociology*	*3*
Winter Term		
CJ 201	Juvenile Delinquency	3
CJ 226	Constitutional Law or	
PS 252	Constitutional Law	3
GS 104	*Physical Science: Principles of Physics*	*4*
PSY 202	*General Psychology*	*3*
SOC 205	*General Sociology*	*3*
Spring Term		
CJ 110	Introduction to Law Enforcement	3
CJ 120	Introduction to Judicial Process	3
JN 134	*Introduction to Photojournalism*	*3*
PSY 203	*General Psychology*	*3*
SOC 206	General Sociology	3
	Work with your faculty advisor to choose elective transfer credits in psychology, political science, sociology or anthropology	6
	Total Credits Required:	**102**

Culinary Arts

See individual program listings under Chef Training, Pre-Restaurant Management, and Wine and Food Dynamics.

Data Processing

See Computer Science, Business and Computer Systems and Computer User Support.

Dental Assistant

Program Contact:
Sheri Billetter

Additional Faculty:
Carrie-Ann Johnson

The Dental Assistant program offers technical training to persons who want to work in dental offices or clinics. The program prepares its graduates for employment in dentistry by emphasizing current concepts in clinical dental assisting, developing proper work ethics, particularly in regard to accuracy, safety, conduct on the job, and recognizing the value of continuing education.

The Dental Assistant program has special admission requirements and enrollment limits. One class of limited size is accepted fall term. (See Special Admissions Programs in the "How to Get Started — Admissions" section of the catalog.) Students unable to meet the required competency level may be advised of other alternatives. All dental assisting classes and supportive classes are presented in a specific sequence. Students must complete these with a "C" or better to remain in the program.

The program was designed to allow students to take the Infection Control Examination administered by DANB at the end of the fall term, when the Infection Control class requirements have been completed successfully.

Prior to beginning the Dental Assistant program, students must provide proof of initiation of the hepatitis B vaccination series, MMR vaccination, and a negative tuberculin test.

The program is accredited by the American Dental Association's Commission on Dental Accreditation and by the United States Department of Education. Graduating students are eligible to take the Dental Assisting National Board Examination, and the Radiation Health and Safety, and General Chairside Examination. Successful graduates receive a Dental Assisting Certificate and are eligible to apply for the Oregon Expanded Function and Radiological Proficiency Certificates.

Student Learning Outcomes

Students who successfully complete a one-year certificate in Dental Assistant will:

- Apply for and maintain appropriate credentials/licenses to practice dental assisting.
- Exhibit professionalism and a dedicated work ethic by employing ethical and legal standards in dentistry.
- Strive toward lifelong learning to maintain competency in the profession and as a valued team member.
- Function on the job in a manner that ensures continued employment.
- Perform work in an organized, sequenced, manner as a multi-task, motivated self starter.
- Practice caring behaviors, be "a people person" by providing a safe, caring environment.
- Practice asepsis and sterilization consistent with OSHA and CDA regulations.
- Work with a variety of people and personality styles, maintain an open mind, be flexible and tolerate a variety of points of view.
- Use critical thinking strategies to identify and participate in problem solving by using verbal, nonverbal and written communication skills with patients and team members.
- Provide oral health education and nutrition counseling.

Facilities

Clinical and expanded function experience is gained utilizing individual stations with anatomical mannequins. Three fully equipped radiology rooms and dark room processing equipment are available for the student to acquire competence in exposing and developing radiographs. Practical experience is gained during the summer term when the student is placed in general practice and specialty offices in Linn and Benton counties.

CAREER AND TECHNICAL

One-Year Certificate in Dental Assistant

Course No.	Course Title	Credits
Fall Term		
BI 4.220	Survey of the Human Body	3
DA 5.461	Dental Radiology I	3
DA 5.484	Dental Materials I	3
DA 5.494	Introduction to Dentistry	3
DA 5.497	Dental Health Education	1
DA 5.500	Dental Anatomy/Histology	2
DA 5.501	Dental Infection Control & Sterilization	2
Winter Term		
DA 5.462	Dental Radiology II	3
DA 5.485	Dental Materials II	3
DA 5.488	Expanded Duties I	2
DA 5.495	Clinical Practice	4
DA 5.498	Dental Health/Nutrition	1
DA 5.525	Intermediate Dental Assisting	1

Spring Term

DA 5.453	Dental Pathology/Pharmacology	2
DA 5.463	Dental Radiology III	3
DA 5.489	Expanded Duties II	2
DA 5.491	Dental Office Records	2
DA 5.492	Dental Office Emergencies	2
DA 5.496	Dental Specialties	3
DA 5.550	Human Relations in Dentistry	2

Summer Term

DA 5.510	Office Practicum	8
DA 5.515	Office Practicum Seminar	2
	Total Credits Required:	**57**

Pre-Professional Dental Hygiene Program

Linn-Benton Community College offers a pre-professional program in dental hygiene in preparation for transfer to the Oregon Institute of Technology Hygiene program. Students should take the following courses to prepare for either OIT's associate or bachelor degree program:

Course No.	Course Title	Credits
BI 231	Human Anatomy & Physiology	5
BI 232	Human Anatomy & Physiology	5
BI 233	Human Anatomy & Physiology	5
BI 234	Microbiology	4
CH 121	College Chemistry	5
CH 122	College Chemistry	5
CH 123	College Chemistry	5
PSY 201	General Psychology	3
WR 121	English Composition	3
WR 122	English Composition: Argumentation	3
	Introductory Computer Science Course (see advisor)	

Digital Imaging and Prepress Technology

Program Contacts:
John Aikman, Lewis Franklin

The Digital Imaging and Prepress Technology Certificate program is dedicated to training students for entry-level positions in the printing and publishing fields.

The curriculum provides learning experiences consistent with the needs of potential employers utilizing the latest industry-standard imaging software applications in both Macintosh and PC platforms. Projects provide opportunities for students to deal with clients and to accept responsibility for deadlines and quality control. Graduates will assemble an extensive portfolio. Employment opportunities are found in a wide range of settings; print shops, service bureaus, as a member of a support team in advertising, graphic design or in-house design groups.

Student Learning Outcomes

Students who successfully complete the One-Year Certificate in Digital Imaging/Prepress will:

- Develop and apply technical competencies necessary for employment in the Graphic Arts industry.
- Demonstrate analytical problem solving in the planning and production of mechanicals for print/reproduction.
- Demonstrate appropriate behavior in giving and/or getting constructive criticism and being flexible to make necessary changes.

Program Requirements

Courses are highly sequential. Only students who follow the recommended sequences for the certificate may be assured of completing the program in one year. Students in the program should anticipate expenses of $500 per term.

For students who plan to enter the Graphic Design Program after Digital Imaging and Prepress Technology, the following changes are required:

Fall Term – Omit Speech and take ART 131 Drawing I.
Winter Term – Omit WR 121 English Composition and take ART 132 Drawing II.
Spring Term – Omit MTH 065 Elementary Algebra and take ART 133 Drawing III.

Facilities

The graphics facilities include two graphic design and digital imaging laboratories with both Macintosh and PC computers and other equipment similar to that in the offices of printers, designers, illustrators, and the print media throughout the country. The facilities also include graphic design and fine art studios and display galleries for presenting student work and the work of other artists and designers. Facilities are handicapped accessible.

One-Year Certificate in Digital Imaging/ Prepress

Successful completion or challenge of 9.049 Introduction to Digital Imaging (Desktop Publishing night class, 0 credit) is required during the first two weeks of Fall Term.

Fall Term

ART 115	Basic Design I: Composition	4
GA 3.153	Digital Illustration I	3
GA 3.156	Digital Page Layout I	3
GA 3.157	Digital Image Manipulation I	3

Winter Term

AA 224	Typographical Design I	4
GA 3.154	Digital Illustration II	3
GA 3.160	Digital Page Layout II	3
GA 3.161	Digital Image Manipulation II	3

Spring Term

ART 116	Basic Design II: Color	4
GA 3.155	Digital Illustration III	3
GA 3.168	Digital Page Layout III	3
GA 3.169	Digital Image Manipulation III	3

Other required courses:

MTH 065	Elementary Algebra	4
SP 100 SP 111 SP 112 SP 218	Introduction to Speech Communication or Fundamentals of Speech or Introduction to Persuasion or Interpersonal Communication	3
WR 121	English Composition	3
	Total Credits Required:	**49**

Drafting and Engineering Graphics Technology

Program Contact:
Perry Carmichael

Additional Faculty:
David Kidd

The two-year Drafting and Engineering Graphics Technology program is a technical curriculum designed to assist students in acquiring basic attitudes, skills and knowledge necessary to successfully enter drafting occupations. The first year of study provides a sound general background, while the second year provides more specific coverage of major occupational areas, such as civil, mechanical, electronic, architectural and technical illustration.

Skilled CAD operators find careers in engineering, architecture, construction, manufacturing, 3-D graphics and many other exciting fields. This career often is an entry point into design, engineering, management and other related areas with salary increases commensurate with skills.

Drafters make detailed drawings of objects that will be manufactured or built. Many drafters specialize in one area. For example, architectural drafters draw features of buildings and other structures. Aeronautical drafters prepare drawings of aircraft and missiles. Civil drafters prepare drawings and maps of highways, pipelines and water systems. Electrical drafters draw wiring and layout diagrams. These are used by workers who install and repair electrical equipment and wiring in buildings. Electronic drafters draw wiring diagrams, circuit board assembly diagrams and layout drawings. Workers who assemble, install and repair electronic equipment use these. Mechanical drafters make detailed drawings of machinery and mechanical devices.

Drafters need knowledge in the following areas: making and using plans, blueprints, drawings, and models; how to build machines, buildings, and other things; how to use computers, machines, and tools to do work more usefully; mathematics, including algebra, geometry, and statistics; computer hardware and software; physics; and use of the English language.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Drafting and Engineering Graphics will:

- Proficiently use AutoCAD, Solids Modeling, Windows and be adaptable to other software.
- Understand mechanical, civil and architectural drawing processes and their applications.
- Create ANSI standard orthographic drawings using 2D and 3D modeling tools.
- Understand all facets in creating a drawing, how drawings relate, supporting documentation to drawings and processes.
- Visualize and interpret realistic project situations and translate them into drawings.
- Apply critical thinking both in self directed and team environments
- Effectively communicate both verbally and in writing.
- Exhibit a strong work ethic, able to self manage skills and time, receptive to assessment and possess job search skills.

Program Requirements

Drafting and Engineering Graphics coursework is rigorous and sequential. Careful scheduling and dedicated effort are required to complete the program in two years. To do so, entering students should have a ninth- grade reading level and be prepared to register for MTH 097 Practical Geometry. Students are required to complete MTH 111 College Algebra and several engineering courses that require math skills, and they are expected to achieve at least a "C" in each required course.

Most class sequences begin in the fall. Working students should consider completing the program in three years or more. Students may attend on a part-time basis with little difficulty. Students may take general education courses at night, but most technical courses are offered only during the day. Individuals seeking to learn AutoCAD® for personal use or to update AutoCAD® skills may enroll in evening classes. Students are required to purchase basic drafting equipment at an approximate cost of $40.

CAREER AND TECHNICAL

Associate of Applied Science in Drafting and Engineering Graphics Technology

See Appendix A for graduation requirements for Associate of Applied Science degree. Classes shown below in italic are general education classes.

General Education Requirements **19**

Program Requirements: **80**

Course No.	Course Title	Credits
Fall Term - First Year		
EG 4.409	Drafting I	2
EG 4.411	CAD I	4
WD 4.265	Print Reading & Welding Exploration	3
CIS 125	Introduction to Software Applications	3
	Science, Technology & Society	*3*
Winter Term		
EG 4.421	CAD II	4
EG 4.423	Architectural Design I	4
EG 4.455	Structural Drafting	2
MTH 097	*Practical Geometry*	*4*
WW 6.156	Industrial Electricity	3
Spring Term		
EG 4.431	CAD III	4
EG 4.445	Plane Surveying	3
EG 4.447	Strength of Materials	3
EG 4.456	Civil Drafting Lab	1
EG 4.457	Workplace Survey	1
MTH 111	College Algebra	5
Fall Term - Second Year		
EG 4.451	Solids I	4
EG 4.443	Schematics	4
WR 121	*English Composition*	*3*
SP 111	Fundamentals of Speech or	
SP 112	*Introduction to Persuasion*	*3*
	Cultural Diversity & Global Awareness	*3*
Winter Term		
EG 4.452	Solids II	4
EG 4.453	Customizing CAD Systems	4
EG 4.465	Civil Drafting II	3
HE 112	*Emergency First Aid*	*1*
	Technical Elective	3
WR 227	Technical Writing	3
Spring Term		
EG 4.454	Applied Solids Design	3
EG 4.463	Architectural Design II	4
EG 4.470	Geometric Dimensioning & Tolerancing	3
HE 261	*CPR*	*1*
WE 1.280R	Cooperative Work Experience	3
	Activity Class	*1*

Technical Electives:
MA 3.397B Manufacturing Processes I
CE 6.422 Introduction to GIS
CS 133V Visual Basics I
RH 3.586 Sheet Metal

Total Credits Required: **99**

Economics

Program Contacts:
Paul Jorgensen, Wendy Krislen

Additional Faculty:
Sally Andrews, Jim Byrne, Myrna Gusdorf, Michael Houser, Ian Priestman, Jack Stone

LBCC offers two programs leading to associate degrees in economics. Each program is designed to be completed in two years. The program leading to an Associate of Science degree with an emphasis in Economics is designed for students planning to transfer to Oregon State University's College of Liberal Arts to complete a baccalaureate degree in economics. It is important that students check with the economics transfer curriculum advisor before enrolling in these classes.

The program leading to an Associate of Arts degree with an emphasis in Economics prepares students for transfer into any of the major programs in economics offered by any public four-year university in Oregon. Students may complete requirements for the baccalaureate degree with two additional years of work. Students planning to transfer to any other four-year institution should contact the economics transfer curriculum advisor before enrolling in any courses.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree or an Associate of Arts degree in Economics will:

- Effectively use industry standard computer skills to accomplish tasks and enhance decision-making.
- Communicate effectively using oral, written and technology skills as appropriate.
- Work with team members and successfully interact with internal and external stakeholders.
- Assume a leadership role.
- Understand and utilize as necessary economic theory as it applies in the areas of business and government.
- Apply learning to successfully complete baccalaureate degree at a four year university.
- Understand the multi-cultural, global environment of contemporary economics.
- Manage their own career prospects including internships and work experience.

Program Requirements

Students expecting to graduate in two years should have a strong interest in the economy. They should have sufficient mathematics and writing skills to enroll in MTH 111 College Algebra and WR 121 English Composition.

TRANSFER

Associate of Science with an emphasis in Economics

See Appendix C for graduation requirements for the Associate of Science degree.

General Education Requirements **43**
All general education requirement classes are shown in italic.
Note: No credits may be used for more than one requirement.

Program Requirements: **49**
Liberal Arts Core Requirements 15
For a list of Liberal Arts Core Requirements, please refer to Appendix D.

Course No.	Course Title	Credits
Fall Term - First Year		
GS 106	*Physical Science: Principles of Earth Science*[2]	*4*
MTH 111	*College Algebra*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
SP 111	*Fundamentals of Speech*	*3*
WR 121	*English Composition*	*3*
Winter Term		
BI 101	*General Biology*[2]	*4*
CIS 125	Introduction to Software Applications	3
HST 102	*History of Western Civilization*[2]	*3*
MTH 241	Calculus for Biological/Management/Social Science	4
WR 227	*Technical Writing*[2]	*3*
Spring Term		
BA 271	Information Technology in Business	3
GS 104	*Physical Science: Principles of Physics*[2]	*4*
EC 215	*Economic Development in the U.S.*	*3(1)*
MTH 245	Math for Biological/Management/Social Science	4
Fall Term - Second Year		
EC 201	Introduction to Microeconomics	4
HST 201	U.S. History: Colonial & Revolutionary	3
MUS 161	*Music Appreciation*[2]	*3*
	Liberal Arts Core — Section III	3
	(For a list of Liberal Arts Core Requirements, please refer to the "Graduation Requirements" section of this catalog.)	
Winter Term		
ANTH 103	Introduction to Cultural Anthropology[2]	3
EC 202	Introduction to Macroeconomics	4
PE 231	*Lifetime Health & Fitness*	*3*
PSY 201	General Psychology or	
PSY 202	General Psychology	3
Spring Term		
ART 204	History of Western Art[2]	3
BA 275	Business Quantitative Methods	4
EC 220	*Contemporary U.S. Economic Issues: Discrimination*	*3*
SOC 204	General Sociology[2]	3
	Cultural Diversity	*3*
	Total Credits Required:	**92**

OREGON TRANSFER

Associate of Arts with an emphasis in Economics

See Appendix B for graduation requirements for the Associate of Arts degree. Classes shown below in italic are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 125	Introduction to Software Applications	3
ENG 104	*Literature: Fiction*[2]	*3*
MTH 111	*College Algebra*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
PE 231	*Lifetime Health & Fitness*[2]	*3*
WR 121	*English Composition*	*3*
Winter Term		
BA 271	Information Technology in Business	3
ENG 105	*Literature: Drama*[2]	*3*
MTH 241	Calculus for Biological/Management/Social Science	4
WR 123	*English Composition: Research*	*3*
	Electives	3
Spring Term		
EC 215	Economic Development in the U.S.	4
ENG 106	*Literature: Poetry*[2]	*3*
HUM 103	*Humanities: Romantic Era to Contemporary Society*[2]	*3*
MTH 245	Math for Biological/Management/Social Science	4
WR 227	*Technical Writing*	*3*
Fall Term - Second Year		
BI 101	*General Biology*[2]	*4*
EC 201	*Introduction to Microeconomics*	*4*
SP 111	*Fundamentals of Speech*	*3*
	Electives	3
Winter Term		
BA 275	Business Quantitative Methods	4
BI 102	*General Biology*[2]	*4*
EC 202	*Introduction to Macroeconomics*	*4*
PHL 202	*Elementary Ethics*[2]	*3*

2– Other classes may substitute. See advisor.

Spring Term

BI 103	*General Biology*[2]	*4*
EC 220	Contemporary U.S. Economic Issues: Discrimination	3
PSY 201	General Psychology or	
PSY 202	General Psychology	3
	Electives	4
	Total Credits Required:	**93**

Education

Program Contacts:
Sue Doescher, Liz Pearce, Christy Stevens

The Education/Child and Family Studies Department offers programs for students who want to become elementary, middle, and secondary school teachers and instructional assistants. If you would like to become an instructional assistant, turn to the Instructional Assistant section of the catalog. If you want to become a preschool teacher, turn to the Child and Family Studies section.

Students who want to become teachers can take their first two years of coursework at LBCC, then transfer to a four-year college and work towards their teaching credential. It is important for you to determine your preferred level and/or subject area of teaching as soon as possible. Additionally, you should select the college you will transfer to. These decisions will help you determine which degree and program you should pursue and who your advisor(s) will be.

Programs that lead to teacher certification are available at many public and private higher education institutions in Oregon. If you are planning to attend OSU, you are advised to pursue the Associate of Science degree. If you plan to teach grades K–8, select the elementary education emphasis; to teach grades 6–12, you will need to complete a degree in a subject discipline.

If you are planning to attend a university other than OSU , you should pursue the Associate of Arts (Oregon Transfer) degree (AAOT). See an advisor for assistance in course selection within the AAOT.

Student Learning Outcomes

Students who successfully complete an Associate of Science or an Associate of Arts degree in Education will:

- Demonstrate an understanding of how children learn.
- Create a personal philosophy of how children develop and learn.
- Apply problem-solving and critical thinking skills.
- Articulate one's own values, beliefs and biases.
- Communicate effectively with children and adults in one-on-one situations and in small group conversation.
- Work as an effective team member and leader.
- Assess and evaluate the characteristics of a teaching/learning environment.
- Write for a defined audience, using appropriate language, formats, and conventions.
- Synthesize and organize information for presentation to varied audiences.

Program Requirements

Both the Associate of Science and the AAOT degrees are designed to be completed in two years, but this assumes that the entering student has prerequisite basic skills. If you did not achieve the minimum scores on the mathematics and writing portions of the Computerized Placement Test (CPT), you may be required to take pre-college courses that may extend completion of your degree beyond two years. Reading courses also may be advisable. The course requirements listed below do *not* include pre-college courses.

Most teacher preparation programs expect students to have experience working in public schools. ED 101A Observation and Guidance and ED 102A Education Practicum provide this. These classes also give you the opportunity to make final decisions about a teaching career, along with learning basic classroom skills. Public school placements must be arranged one term in advance. Check with your advisor to be ready to enroll in a practicum.

Fall Linked Classes

You may want to consider taking linked classes in your first term. Linked classes integrate the subjects and assignments of two courses. You will learn to communicate clearly, think logically and critically, get along with different kinds of people, and work both independently and in small groups. You'll learn important skills that will benefit you as a teacher by participating in these linked courses. Get more details from your advisor.

OREGON TRANSFER

Associate of Arts with an emphasis in Elementary Education

The Associate of Arts (Oregon Transfer) degree is designed to allow you to complete the first two years of your studies at LBCC and transfer to a four-year college as a junior. Many courses meet the requirements of this degree, but some choices are better for education students than others. Select your electives carefully to insure that you take the prerequisites to upper-division courses while you are at LBCC. A sample AAOT two-year plan of study is outlined below. Your specific course selections may vary depending upon which term you begin your studies and whether you transfer any courses from another institution. Check with your advisor each term to be sure you are on track for the degree.

See Appendix B for graduation requirements for the Associate of Arts degree. Classes shown below in italics are general education classes.

Course No.	Course Title	Credits
Fall Term - First Year		
	Arts & Letters	*3*
HDFS 225	*Child Development*	*3*
	Social Science	3
WR 121	*English Composition*	*3*
	Elective (recommended: CG 111 College Learning & Study Skills	3
Winter Term		
	Arts & Letters	*3*
ED 216	Purpose, Structure & Function of Education in a Democracy	3
HDFS 229	School Age & Adolescent Development	3
	Science with lab	*4*
WR 123	*English Composition: Research*	*3*
Spring Term		
	Health & Physical Education	3
	Science with lab	*4*
	Social Science	*3*
SP 218	*Interpersonal Communication*	*3*
WR 122	*English Composition: Argumentation*	*3*
Fall Term - Second Year		
ED 219	Multicultural Issues in Educational Settings	3
	Social Science	3
MTH 211	*Fundamentals of Math I*	*4*
	Science with Lab	4
Winter Term		
	Arts & Letters	*3*
ED 101A	Observation & Guidance	3
ED 253	Learning Across the Lifespan	3
MTH 212	*Fundamentals of Math II*	*4*
	Elective	3

Spring Term

	Arts & Letters	3
MTH 213	*Fundamentals of Math III*	4
	Electives	6
	Total Credits Required:	**90**

TRANSFER

Associate of Science with an emphasis in Elementary Education

Students have several choices in working toward a K-8 teaching credential at Oregon State University. They may pursue one of three education options (Human Development and Family Sciences; Liberal Studies; General Science) that lead to a bachelor's degree. Students then earn a teaching license by completing a second bachelor's degree in education or completing a MAT program.

Students may also pursue an initial teaching license by completing the Education Double Degree described below. This degree contains 40 additional bachelor level credits and may be combined with one of the above options or with another chosen field.

Students are encouraged to complete one of the following three options to move toward their bachelor's degree. In addition to the general education and perspective courses listed below, students must also take selected program requirements (see an advisor for a class list).

• *Human Development & Family Sciences Option*

Human Development and Family Sciences is designed for students who prefer to teach children in grades K–3. Most courses focus on child development, working with young children, and family studies. Students may take up to 47 program requirement credits at LBCC.

Course No.	Course Title	Credits
Writing/Composition		
WR 121	*English Composition*	3
WR 227	*Technical Writing*	3
Speech		
SP 218	*Interpersonal Communication*	3
Mathematics		
MTH 211	*Fundamentals of Elementary Mathematics I*	4
Health & Physical Education		
PE 231	*Lifetime Health & Fitness*	3
Perspectives		
Biological Science choice		4
Cultural Diversity choice		3
Difference, Power & Discrimination–HDFS 201		3
Literature & the Arts–ENG 221		3
Physical Science choice		4
Physical/Biological Science choice		4
Social Processes & Institutions–PSY 201, or PSY 202, or SOC 204		3
Western Culture HST 203		3
	General Education Requirements:	**43**
	Program Requirements (See Education advisor for list):	**48**
	Total Credits Required:	**90**

• *Liberal Studies Option*

Liberal Studies is designed for students who prefer to teach older children (grades 3–8). The majority of courses focus on liberal studies content areas, such as the humanities and the social sciences. Students may take up to 47 program requirement credits at LBCC.

Course No.	Course Title	Credits
Writing/Composition		
WR 121	*English Composition*	3
	Writing choice	3
Speech		
	Speech choice	3
Mathematics		
MTH 211	*Fundamentals of Elementary Mathematics I*	4
Health & Physical Education		
PE 231	*Lifetime Health & Fitness*	3
Perspectives		
Physical Science choice		4
Biological Science–BI 101, BI 102 or BI 103		4
Physical/Biological Science choice		4
Cultural Diversity–GEOG 202, GEOG 203 or GEOG 204		3
Difference, Power & Discrimination–HST 201, HST 202 or HST 203		3
Literature & the Arts–ENG 106		3
Social Processes & Institutions–HDFS 201		3
Western Culture–HST 201, HST 202 or HST 203		3
	General Education Requirements:	**43**
	Program Requirements (See Education advisor for list):	**47**
	Total Credits Required:	**90**

• *General Science Option*

General Science is designed for students who prefer to teach in the upper elementary grades or in a middle school, grades 4–9. The majority of courses focus on the biological and the physical sciences. Students may take up to 47 program requirement credits at LBCC.

Course No.	Course Title	Credits
Writing/Composition		
WR 121	*English Composition*	3
	Writing choice	3
Speech		
	Speech choice	3
Mathematics		
MTH 111	*College Algebra* (Four credits apply toward general education requirements; one credit applies toward program.)	4(1)
Health & Physical Education		
PE 231	*Lifetime Health & Fitness*	3
Perspectives		
Biological Science–BI 101 or BI 211		4
Cultural Diversity–GEOG 202, GEOG 203, or GEOG 204		3
Difference, Power & Discrimination–HST 203		3
Literature & the Arts–ENG 106		3
Physical Science–CH 121 or CH 221 (Four credits apply toward general education requirements; one credit applies toward program.)		4(1)
Physical Science–G 101, G 102, GS 104, GS 106, GS 108		4
Social Processes & Institutions–PSY 201		3
Western Culture–HST 101, HST 102, HST 103, HST 201 or HST 202		3
	General Education Requirements:	**43**
	Program Requirements (See Education advisor for list):	**47**
	Total Credits Required:	**90**

Secondary Education

AS degree course requirements for students planning to teach grades 6–12 are determined by subject area. Students select a subject area emphasis such as English, mathematics, biological science, etc. Secondary students should have two advisors: one from Education and one from their subject area. See an Education advisor for information about the requirements to become a secondary teacher and for referral to a subject area advisor. Students will also need to complete the double degree in Education described below or a Masters of Arts in Teaching.

• *Double Degree Option*

Students may elect to earn a double degree in Education at OSU. The student earns a primary or first degree in a content area such as English, Biology or Liberal Studies. The double degree is earned by completing an additional 40 credits beyond the primary degree. Nine required credits of the double degree may be taken at LBCC. The classes are: ED 216 Pur-

pose, Structure and Function of Education in a Democracy; ED 219 Multicultural Issues in Education; and ED 253 Learning Across the Lifespan.

Emergency Medical Technician

Program Contact:
Faye Melius

The Emergency Medical Technician (EMT) certificate program provides opportunities for both the rural volunteer and the career emergency medical technician. There are three levels of EMT certification; LBCC provides training that leads to certification in two categories: the EMT Basic and the EMT Intermediate.

Emergency medical technicians provide immediate care for ill or injured people. They drive to the scene of an emergency, determine the nature and extent of the injury or illness, and give emergency care, which may require use of equipment such as an electrocardiograph. If victims are trapped in cars or buildings, EMTs may have to free them.

If a patient needs additional care, the EMTs lift them onto stretchers and transport them to medical facilities. After transferring a patient to the emergency room, the EMTs record the treatment on the patient's chart, then replace supplies, check equipment, and clean the ambulance.

Although LBCC does not provide paramedic training, we do provide a path for the career EMT who wants to become certified at the paramedic level. All first-year courses required for the associate degree in emergency medical services are offered at LBCC, although they are not offered every term. (Check the catalog for the scheduled classes.) Upon completion, the student is eligible for a one-year certificate in EMT. Students planning to continue to the paramedic level can transfer to another paramedic training institution to receive the associate degree in EMS.

The EMT certificate program is accredited by the Oregon Health Division's EMS and Trauma Systems Section and the Oregon Department of Education. The curricula utilized are the National Department of Transportation (USDOT) National Standard Curriculum and the Oregon EMT Intermediate Curriculum. The program utilizes qualified EMS instructors for its course content.

Students interested in training for a career in Fire Science should contact the department chair at 917-4780.

Student Learning Outcomes

Students who successfully complete a One-year Certificate in Emergency Medical Technician will:

- Use verbal, nonverbal and written documentation to communicate effectively in a variety of situations.
- Exhibit responsive, respectful and culturally sensitive personal behaviors in the performance of duties as a community member and EMT.
- Make competent decisions based on knowledge and practice standards.
- Practice within the legal and ethical standards.
- Perform pre hospital and transport skills in a manner that protects and promotes physical and psychological safety.
- Teach principles of wellness and restorative care to individuals and groups.
- Work in an organized and responsible manner in stressful situations.
- Protect personal and family integrity by using principles of personal stress debriefing and time management.

CAREER AND TECHNICAL

One-Year Certificate in Emergency Medical Technician

Course No.	Course Title	Credits
Fall Term		
BI 231	Human Anatomy & Physiology	5
EM 5.801	Introduction to EMS	3
EM 5.810	EMT Basic: Part A	3
EM 5.811	EMT Basic: Part B	3
MTH 065	Elementary Algebra	4
Winter Term		
BI 232	Human Anatomy & Physiology	5
EM 5.812	EMT Basic: Part C	4
EM 5.820	Emergency Communication & Patient Transportation	3
MO 5.630	Medical Terminology & Body Systems I	3
WR 121	English Composition	3
Spring Term		
BI 233	Human Anatomy & Physiology	5
EM 5.825	EMT Rescue	3
EM 5.830	Crisis Intervention	3
PSY 101	Psychology & Human Relations	3
WE 1.280	CWE EMT	2
	Total Credits Required:	**52**

Engineering Transfer

Program Contacts:
David Kidd, John Sweet

The LBCC Engineering Transfer program provides an Associate of Science degree with an emphasis in engineering. The program provides a balanced pre-engineering curriculum to prepare students for transfer to a bachelor's degree program. The curriculum for this degree features a broad base of pre-engineering courses, a solid foundation in mathematics and the physical sciences and core requirements in general education. The curriculum meets the requirements for admission to most of the engineering programs at Oregon State University and at other engineering bachelor's degree programs.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Engineering Transfer will:

- Apply knowledge of mathematics and science to formulate and solve engineering problems.
- Use computers and other current technology to solve engineering problems.
- Write and speak effectively.
- Demonstrate an understanding of ethics in school and in professional engineering practice.
- Develop a strategy to succeed in a large university setting.

Program Requirements

Students entering the program with solid high school backgrounds in physics, chemistry and pre-calculus can expect to complete the program in two years. Students who need to complete any pre-calculus classes after their arrival on campus should expect to spend more than two years in the program. Many of the courses listed as fall term freshman courses have prerequisites. Entering students who are deficient in mathematics, chemistry, writing or reading commonly spend three years at LBCC before transferring to a four-year institution.

Many students start at terms other than fall term and take night classes as well as day classes. Some students attend part time. Students should be prepared to purchase a scientific-type electronic calculator.

TRANSFER

Associate of Science with an emphasis in Engineering Transfer

See Appendix C for graduation requirements for the Associate of Science degree. Construction Engineering Management majors should refer to the list of substitutions that follows the program requirements. Note: CH 150 Preparatory Chemistry is a prerequisite for CH 201 Chemistry for Engineering Majors I and CH 221 General Chemistry. Other classes can be used to meet this prerequisite. See the course description in this catalog for details. Students majoring in Chemical Engineering, Environmental Engineering, and Bioengineering should take CH 221, CH 222 and CH 223 instead of CH 201, CH 202 and PH 213.

General Education Requirements: **43**
Classes shown below in italic are general education classes.

Program Requirements: **66**

Course No.	Course Title	Credits
Fall Term - First Year		
ENGR 111	Engineering Orientation I	4
CH 150	Preparatory Chemistry	3
MTH 251	*Differential Calculus* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
WR 121	*English Composition*	*3*
	Cultural Diversity	*3*
Winter Term		
ENGR 112	Engineering Orientation II	4
CH 201	*Chemistry for Engineering Majors* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
MTH 252	Integral Calculus	5
SP 111	*Fundamentals of Speech or*	
SP 112	*Introduction to Persuasion*	*3*
	Literature & the Arts	*3*
Spring Term		
CH 202	*Chemistry for Engineering Majors II* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
MTH 253	Calculus	4
PE 231	*Lifetime Health & Fitness*	*3*
	Biological Science	*4*
WR 227	*Technical Writing*	*3*
Fall Term - Second Year		
ENGR 201	Electrical Fundamentals: DC Circuits	4
ENGR 211	Statics	4
MTH 254	Calculus	4
PH 211	General Physics with Calculus	5
Winter Term		
ENGR 212	Dynamics	4
PH 212	General Physics with Calculus	5
	Western Culture	*3*
	Engineering Elective	4
	Social Processes & Institutions	*3*
Spring Term		
MTH 256	Applied Differential Equations	4
PH 213	General Physics with Calculus	5
	Difference, Power & Discrimination	*3*
	Engineering Elective	4
	Total Credits Required:	**109**

From the following list of approved electives, select courses that are required for your major at the institution you plan to attend. Oregon State University will accept a maximum of 108 transfer credit hours.

CH 223	General Chemistry	5
CH 241	Organic Chemistry	4
CH 242	Organic Chemistry	4
CH 243	Organic Chemistry	4
CS 133V	Visual Basic I	4
CS 161	Introduction to Computer Science I (Java)	4
CS 162	Introduction to Computer Science II (Java)	4
EC 201	Introduction to Microeconomics	4
EC 202	Introduction to Macroeconomics	4
ENGR 202	Electrical Fundamentals: AC Circuits	4
ENGR 203	Electrical Fundamentals: Signals & Controls	4
ENGR 213	Strength of Materials	4
ENGR 245	Engineering Graphics & Design	4
ENGR 271	Digital Logic Design	3
ENGR 272	Digital Logic Design Lab	1
MTH 255	Vector Calculus	4
MTH 265	Statistics for Scientists & Engineers	4

The following course substitutions will be made for students intending to major in Construction Engineering Management at OSU:
BA 215 for MTH 253
ENGR 213 for ENGR 212
BA 226 for MTH 254
BA 275 for MTH 256
CEM 263 for ENGR 201
ENGR 245 for CH 202
EC 202 for PH 213

English

Program Contact:
Linda Spain

Additional Faculty:
Natalie Daley, Paul Hagood, Robin Havenick, Peter Jensen, Terrance Lane Millet, Jane Walker

Whether you plan to enter the sciences, a business or technical field or the liberal arts, your career success will be enhanced by strong communication skills. A student working toward a bachelor's degree can choose between two associate degree programs at LBCC: the Associate of Science or the Associate of Arts (Oregon Transfer). English majors planning to transfer to Oregon State University are advised to complete the AS degree. It is designed to mirror requirements at OSU, allowing you to transfer to OSU as an English major, a liberal studies major, a writing minor, or as a student in the Interdisciplinary Multimedia program. If you plan to transfer to the University of Oregon or any other state college, you should consider completing the AAOT degree.

Students interested in earning an AS with an emphasis in English may choose either a Literature, Creative Writing or Technical Communication option, which will prepare them to enter the workforce or transfer to a four-year college or university. The Technical Communication option provides specialized classes in technical writing, graphic design for publication and a foundation in grammar and style.

Student Learning Outcomes

Students who successfully complete the Associate of Science degree with an emphasis in English will:

- Recognize how literature helps in understanding the human condition.
- Interpret literary works through critical reading.
- Demonstrate how literature enhances personal awareness and creativity.
- Write and speak confidently about your own and others' ideas.

Students who successfully complete the Associate of Science degree with an emphasis in English–Technical Communications will:

- Write and speak persuasively in a variety of formal and informal professional settings.

- Critically read, research, write and document technical materials.
- Plan, organize, develop and present complex projects.
- Use computer applications to present technical information.
- Design documents to meet a specific audience's needs.
- Work and learn independently and collaboratively.

Program Requirements

The English program welcomes students at all skill levels, from beginner to advanced. However, to complete your Associate of Science degree with an emphasis in English within a two-year period, you will need to attend as a full-time student and you will need to meet prerequisite skills in math and writing as measured by LBCC's Placement Test. Test scores that require you to take pre-college courses in math and writing will extend this two-year estimate.

All writing classes numbered above WR 121 require successful completion of WR 121 as a prerequisite.

TRANSFER

Associate of Science with an emphasis in English

See Appendix C for graduation requirements for the Associate of Science degree. Note: No credits may be used for more than one requirement. OSU English majors must meet proficiency in a foreign language.

General Education Requirements **43**

Program Requirements **48**

Liberal Arts Core Requirements 15

For a list of Liberal Arts Core Requirements, please refer to Appendix D.

Select either the Literature option, Creative Writing option, or the Technical Communication option. Sequentially numbered courses need not be taken in sequence, but it is recommended.

Course No.	Course Title	Credits

Literature Option

Select 18 credits from the following list. Taking entire sequences is strongly recommended.

ENG 107	Western World Literature: Classical	3
ENG 108	Western World Literature: Middle Ages through Neoclassicism	3
ENG 109	Western World Literature: Modern	3
ENG 204	English Literature: Early	3
ENG 205	English Literature: Middle	3
ENG 206	English Literature: Modern	3
ENG 253	American Literature: Early	3
ENG 254	American Literature: Middle	3
ENG 255	American Literature: Modern	3

Select three credits from the following English courses:

ENG 201	Shakespeare	3
ENG 202	Shakespeare	3
ENG 203	Shakespeare	3
Select 12 other literature credits with the ENG prefix		*12*

Creative Writing Option

Select 18 credits from at least three of the following. Any course may be repeated for us to 6 credits.

WR 240	Creative Writing: Nonfiction	3
WR 241	Creative Writing: Fiction	6
WR 242	Creative Writing: Poetry	6
WR 243	Creative Writing: Script Writing	3
WR 244	Advanced Creative Writing:	3
WR 246	Editing & Publishing	3
WR 247	Literary Publication	3

Select 15 credits from the following. Sequentially numbered courses need not be taken in sequence, but it is recommended.

ENG 107	Western World Literature: Classical	3
ENG 108	Western World Lit: Middle Ages through Neoclassicism	3
ENG 109	Western World Literature: Modern	3
ENG 204	English Literature: Early	3
ENG 205	English Literature: Middle	3
ENG 206	English Literature: Modern	3
ENG 207	Non-Western World Literature: Asia	3
ENG 208	Non-Western World Literature: Africa	3
ENG 209	Non-Western World Literature: The Americas	3
ENG 253	American Literature: Early	3
ENG 254	American Literature Middle	3
ENG 255	American Literature: Modern	3

Technical Communication Option

WR 185	Understanding English Grammar	3
WR 227	Technical Writing	3
WR 240	Creative Writing: Nonfiction	3
WR 246	Editing & Publishing	3
WR 247	Literary Publications	3

Select 6 credits from the following list.

JN 134	Introduction to Photojournalism	3
SP 219	Small Group Communication	3
WR 228	Technical Writing II	3
WR 280	CWE English/Writing	2

See your advisor to select 12 additional elective credits in a specific field.

Total Credits Required: 91

Exercise and Sport Science

Program Contact:
Richard Gibbs

Additional Faculty:
Brad Carman, Cindy Falk, Randy Falk, Jayme Frazier, Greg Hawk, Kristi Murphey

The Health and Human Performance Department offers an Associate of Science degree for students planning to transfer to a four-year program to earn a baccalaureate degree in the area of physical education or exercise and sport science. Career options include physical education, fitness program management, physical education for the disabled, pre-therapy, sports leadership, coaching, athletic training, or applied exercise and sports science.

A comprehensive program is provided for students who want to gain knowledge about the value of preventive and corrective health practices and who want to participate in physical activities to enhance overall wellbeing.

Physical activity is provided through three distinct learning and participation opportunities: lifetime recreational skills; developmental courses, which stress conditioning of the body and maintenance of a specific level of physical condition; and team sport courses, which provide a high level of conditioning and competition. Intercollegiate athletics are offered in men's and women's basketball, men's baseball, and women's volleyball.

All students interested in this major should see an advisor regarding electives. The selection of electives is a critical piece to transferring as a junior to OSU or any other four-year school.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Exercise and Sports Science will:

- Develop individual health and fitness programs.
- Recognize the link between current behavior and future health status.

- Exhibit healthy lifestyle choices.
- Demonstrate an ability to access and explore career and academic opportunities.
- Make appropriate decisions regarding health issues and products.
- Choose healthy individual behaviors that will have a positive impact on society.

Facilities

The department has indoor and outdoor facilities to support exercise, physical education activities and athletics. The Activity Center contains a fully equipped, double-court gymnasium, as well as a weight training room and complete shower facilities. Outside are a baseball diamond, tennis courts and four sand volleyball courts. The department also utilizes non-college facilities for activities such as scuba, lifeguard training and water safety instruction.

TRANSFER

Associate of Science with an emphasis in Exercise and Sport Science

See Appendix C for graduation requirements for the Associate of Science degree.

General Education Requirements **43**
WR 122 English Composition: Argumentation is required.

Program Requirements **47**

Course No.	Course Title	Credits
HE 225	Social & Individual Health Determinants	3
HE 252	First Aid	3
NFM 225	Nutrition	4
PE 131	Introduction to Health & Physical Education	3
Select 34 credits from the following courses as electives		*34*
BI 231	Human Anatomy & Physiology (5 credits)	
BI 232	Human Anatomy & Physiology (5 credits)	
BI 233	Human Anatomy & Physiology (5 credits)	
BI 234	Microbiology (4 credits)	
HE 125	Occupational Safety & Health (3 credits)	
HE 151	Drugs in Society (3 credits)	
HE 204	Exercise & Weight Management (3 credits)	
HE 205	Diet & Nutrition for Active Lifestyles (3 credits)	
HE 207	Stress Management (3 credits)	
HE 220	Introduction to Epidemiology & Health Data (3 credits)	
HE 253	AIDS & Sexually Transmitted Diseases (3 credits)	
HE 263	Psychosocial Dimensions of Health (3 credits)	
PE 280	CWE (3+ credits)	
PSY 201	General Psychology (3 credits)	
SOC 204	General Sociology (3 credits)	

Total Credits Required: **90**

Foreign Language

Program Contact:
Margarita Casas

Currently the only foreign language degree offered through LBCC is Spanish. Students who wish to participate in the LBCC/OSU Degree Partnership Program and use a different language may, with the approval of the Foreign Language advisor, substitute courses for those listed. Transfer credit foreign language classes are offered each term to help students build proficiency in a foreign language. These classes earn four transfer credits and emphasize speaking, reading and writing.

LBCC also offers a wide variety of conversational foreign languages to meet community interests and the needs of local employers. Conversational foreign language classes are offered through community education centers in Albany, Corvallis and Lebanon. They include: beginning conversation classes in Arabic, Chinese, German, Japanese, Latin, and Russian; beginning, intermediate, and advanced conversation classes in French and Spanish; and beginning and intermediate classes in American Sign Language.

Student Learning Outcomes

Students who successfully complete the Associate of Science degree with an emphasis in Foreign Language will:

- Show empathy and understanding to people from different cultural backgrounds.
- Use critical thinking to understand and appreciate other perspectives.
- Demonstrate basic understanding of the history and culture of Spain, Latin America and Hispanics in the U.S.
- Communicate successfully most tasks and social situations within the Hispanic culture/language.

TRANSFER

Associate of Science with an emphasis in Foreign Language

See Appendix C for graduation requirements for Associate of Science degree. Please consult with your department advisor when selecting courses. Currently the only foreign language degree offered through LBCC is Spanish. Students who wish to participate in the LBCC/OSU Degree Partnership Program and use a different language may, with the approval of the Foreign Language advisor, substitute courses for those listed below. Note: No credits may be used for more than one requirement.

General Education Requirements **43**

Program Requirements **48**

	Liberal Arts Core Requirements (For a list of Liberal Arts Core Requirements, please refer to Appendix D.)	15
Course No.	Course Title	Credits
SPN 101, 102, 103	First-Year Spanish I, II, III	12
SPN 201, 202, 203	Second-Year Spanish I, II, III	12
HST 158	History of Latin America	3
	Elective	6

Total Credits Required: **91**

General Science

See Physical Sciences.

Graphic Design

Program Contact:
John Aikman, Lewis Franklin

The Graphic Design program is dedicated to training students for entry-level positions in the fields of design, illustration, printing and desktop publishing. The graphic design curriculum leads to an Associate of Applied Science degree.

Graphic designers create designs using typography, photography and illustration. Designers create brochures, logos, packaging and advertisements to promote products, services or businesses. Some work on design and layout for magazines or other publications, and others work in television or film. Skills essential to individuals pursuing careers in these fields include: design and composition, computer technology, communications, media, and mastery of the English language.

The Associate of Applied Science degree in Graphic Design helps refine an individual's visual communication, problem-solving and organizational skills. Emphasis is placed on professionalism and freshness of approach. Emphasizing an integrated approach in which the Art, Digital Imaging and Graphic Arts faculty work together, the program immerses students in both the creative and the technical demands involved in producing a finished product. Students receive learning experiences consistent with the needs of potential employers in the industry. Projects in design and imaging provide opportunities for students to deal with clients and to accept responsibility for deadlines and quality control. Graduates carry with them an extensive professional portfolio. Cooperative Work Experience (CWE) may offer students on-the-job learning experiences.

Student Learning Outcomes

Students who successfully complete the Associate of Applied Science degree in Graphic Design will:

- Demonstrate analytical problem solving in the development and implementation of effective visual communication.
- Cultivate and apply creativity through free association, brainstorming, the group process and original research.
- Demonstrate appropriate behavior in giving and/or getting constructive criticism and being flexible to make necessary changes.
- Integrate awareness of personal strengths and limitations with significant historic and current design trends, attitudes and values in developing effective visual communication.
- Contribute successfully to the group process by being a team player, maintaining accessibility, remaining involved, and demonstrating reliability.
- Develop and apply technical competencies necessary for employment in the Graphic Arts industry.

Program Requirements

Potential graphics majors make application to the Graphic Design Program upon successfully completing the Digital Imaging One-Year Certificate (or equivalent) in June. Portfolio expectations are available upon request. Twenty individuals are then selected to begin the two-year Graphic Design program.

Courses are highly sequential. Only students who follow the recommended sequences for the degree may be assured of completing the program in two years. Students entering at times other than fall term may need more than six terms to complete the degree requirements.

Students in the program should anticipate expenses of $500 per term during the first year and $700 each term during the second year for books, tools, supplies and materials.

Facilities

The graphics facilities include two graphic design and digital imaging laboratories with both Macintosh and PC computers and other equipment similar to that in the offices of printers, designers, illustrators, and the print media throughout the country. The facilities also include graphic design and fine art studios and display galleries for presenting student work and the work of other artists and designers. Facilities are handicapped accessible.

Associate of Applied Science degree in Graphic Design

See Appendix A for graduation requirements for Associate of Applied Science degree. Prerequisite: completion of three-term digital imaging sequence (or equivalent). ART 131 Drawing I, ART 132 Drawing II and ART 133 Drawing III are program requirements for Graphic Design and can be taken as part of the Digital Imaging Prepress Technology Certificate.

General Education Requirements		**19**
Program Requirements		**71**
Course No.	Course Title	Credits
Fall Term - First Year		
AA 237	Illustration I[1]	4
ART 204	*History of Western Art*[1]	*3*
ART 234	Figure Drawing	4
Winter Term		
AA 238	Illustration II[1]	4
ART 205	History of Western Art[1]	3
Spring Term		
AA 239	Illustration III[1]	4
ART 206	History of Western Art[1]	3
Fall Term - Second Year		
AA 221	Graphic Design I[1]	4
AA 226	Typographical Design II[1]	4
GA 3.162	Multimedia I[1]	3
Winter Term		
AA 222	Graphic Design II[1]	4
AA 225	Packaging & 3-D Design[1]	4
GA 3.163	Multimedia II[1]	3
Spring Term		
AA 223	Graphic Design III[1]	4
AA 228	Portfolio Preparation: Professional Practices[1]	4
Select additional elective courses		*7*

Approved electives

ART 263	Digital Photography (3 credits)
BA 101	Introduction to Business (4 credits)
BA 2.530	Practical Accounting (4 credits)
BA 223	Principles of Marketing (3 credits)
WR 075	Spelling (3 credits)
WR 227	Technical Writing (3 credits)
WR 246	Editing & Publishing (3 credits)

Other than required for general education

SP 100	Introduction to Speech Communication (3 credits)
SP 111	Fundamentals of Speech (3 credits)
SP 112	Introduction to Persuasion (3 credits)
SP 218	Interpersonal Communication (3 credits)
SP 219	Small Group Communication (3 credits)

Total Credits Required: 90

1– Courses offered that term only.

Health and Human Sciences

Program Contact:
Sue Doescher

Health and Human scientists work to improve the quality of family life through the practical application of science and technology. They learn to use skills from a wide variety of disciplines, from art to science to communications. They may choose to specialize in such diverse careers as textile design, early childhood education, human services or restaurant food service management. Throughout this multi-disciplinary field runs a common thread: a real concern for the family as it faces the challenges of a changing world.

Associate of Science with an emphasis in Health and Human Sciences

The Associate of Science degree is designed for students who plan to pursue a major in health and human sciences at Oregon State University. A large number of career options exist in this field. At OSU, these are offered under more than one area of study. Degree requirements vary according to the option chosen. A checklist of program requirements for each of the options is available from the program contact.

- *Design and Human Environment*—Students may choose an area of study from the following options: apparel design, housing studies, interior design and merchandising management. Courses prepare students for positions in retailing of apparel and home furnishings, housing design and policy, apparel production, and promotional work for manufacturers.
- *Human Development and Family Sciences*—Students may choose an area of study from the following options: early childhood development and education, family and consumer sciences, gerontology and human services. HDFS programs prepare students for work in human services and agencies, early childhood education, senior services, extension, and teaching high school courses in family and consumer science. Students interested in Early Childhood/Elementary Education should refer to the Education section of this catalog.
- *Nutrition and Food Management*—Students may choose an area of study from the following options: dietetics, restaurant food service management, and nutrition science. Graduates find employment as dieticians, sales representatives for food service or health products, food service and restaurant management, and food product development.

Health Promotion and Education

Program Contacts:
Richard Gibbs

Additional Faculty:
Brad Carman, Cindy Falk, Jayme Frazier, Kristi Murphey

This two-year program is for students who plan on transferring to a four-year institution to complete a non-clinical degree in public health or health education. Professional careers in this field include: health promotion, health education, environmental health, occupational safety, child and adolescent health, addiction studies, community health and gerontology.

Students should see an advisor regarding electives. The selection of electives is a critical piece to transferring as a junior to OSU or any other four-year school.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Health Promotion and Education will:

- Develop individual health and fitness programs.
- Recognize the link between current behavior and future health status.
- Exhibit healthy lifestyle choices.
- Demonstrate an ability to access and explore career and academic opportunities.
- Make appropriate decisions regarding health issues and products.
- Choose healthy individual behaviors that will have a positive impact on society.

TRANSFER

Associate of Science with an emphasis in Health Promotion and Education

See Appendix C for graduation requirements for the Associate of Science degree. Classes shown below in italics are general education classes.

General Education Requirements		**43**
Program Requirements		**49**
Course No.	Course Title	Credits
BI 234	Microbiology	4
HE 220	Introduction to Epidemiology & Health Data Analysis	3
HE 225	Social & Individual Health Determinants	3
HE 252	First Aid	3
HE 263	Psychosocial Dimensions of Health	3
NFM 225	Nutrition	4
PE 131	Introduction to Health & Physical Education	3
PSY 201	General Psychology	3
Select 23 credits from the following courses as electives		*23*
BI 231	Human Anatomy & Physiology (5 credits)	
BI 232	Human Anatomy & Physiology (5 credits)	
BI 233	Human Anatomy & Physiology (5 credits)	
HE 125	Occupational Safety & Health (3 credits)	
HE 151	Drugs in Society (3 credits)	
HE 204	Exercise & Weight Management (3 credits)	
HE 205	Diet & Nutrition for Active Lifestyles (3 credits)	
HE 207	Stress Management (3 credits)	
HE 253	AIDS & Sexually Transmitted Diseases (3 credits)	
HE 280	CWE (3+ credits)	
SOC 204	General Sociology (3 credits)	
	Total Credits Required:	**92**

Heavy Equipment/Diesel Technology

Program Contact:
Steve Pearson, John Alvin Jr.

The curriculum of the Heavy Equipment/Diesel Technology program is designed to give the student a balance of theory and practical experience gained by diagnosing, servicing, repairing and rebuilding components and live equipment. Diesel technicians repair and maintain the diesel engines that power trains; ships; generators; and the equipment used in highway construction, logging and farming. Technicians will also maintain and repair power train, electrical and hydraulic systems used in construction equipment, farm equipment and trucks. Some technicians work for companies that maintain their own vehicles; in these jobs, technicians spend most of their time doing tasks that will help prevent future problems.

To become a diesel technician, a student should have a mechanical aptitude and an affinity for shop work, mathematics and science. Being able to read with understanding is essential because technicians spend a considerable amount of time reading service manuals.

Certification is optional and may be obtained in one or more areas including brakes, gasoline engines, diesel engines, drive trains, electrical systems, and suspension and steering. For certification, a mechanic must pass a written exam and have at least two years of experience (completion of an automotive technician program may be substituted for up to one year).

Upon completing the Associate of Applied Science degree or two-year certificate, the student may gain employment in service departments of distributors and dealers that sell diesel-powered autos, trucks and farm and construction equipment. Bus lines, railways, and truck and marine industries also employ diesel technicians. Electric power plants, local industries, and both state and federal government have a need for trained technicians.

LBCC's Heavy Equipment/Diesel Technology program supports student participation in Skills USA-VICA. Students raise funds to pay the cost of travel, lodging and entry fees in the annual state skills contest.

In addition to the usual books and supplies, students should expect to spend about $750 for a personal set of diesel mechanic hand tools.

The Heavy Equipment/Diesel Technology curricula lead to an Associate of Applied Science degree or a two-year certificate.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science degree or earn a two-year certificate in heavy equipment/diesel:

- Achieve a high level of craftsmanship and professionalism.
- Inspect, diagnose, and conduct failure analysis and preventive maintenance inspections during repairs.
- Use service resources effectively.
- Apply fundamental skills and concepts to unfamiliar situations.
- Provide superior customer service.
- Follow safe shop practices.
- Select and maintain appropriate tools.
- Communicate effectively in writing and verbally, and practice productive interpersonal relations.

Program Requirements

The Associate of Applied Science degree requires completion of English composition (WR 121), speech and math, usually in the first year, to acquire the degree in two years. Only students beginning their program during the fall term can be assured of completing the program in two years. Students enrolling at other times may need more than six terms to complete degree requirements.

Skills Upgrading

An individual who has prior work experience in the field may be admitted to advanced standing in the program upon confirmation of appropriate education or experience, which is evaluated through transcripts, work history and competence examination. Permission of the division director is required.

Facilities

The program is conducted in modern, well-equipped classrooms and laboratory/shops. The 25,000-square-foot Heavy Equipment Mechanics/Diesel facility houses a dynamometer and heavy-duty engine rebuilding lab. Students also have a large area where they can work on trucks, crawler tractors, farm equipment and tractor/trailers.

1–Courses offered that term only.

CAREER AND TECHNICAL

Associate of Applied Science in Heavy Equipment/Diesel Technology

General Education Requirements **19**

See graduation requirements for Associate of Applied Science degree. Classes shown below in italic are general education classes. All other class sequences may be taken as circumstances dictate.

Program Requirements **78**

Course No.	Course Title	Credits
Fall Term - First Year		
HV 3.297	Electrical & Electronic Systems	10
WD 4.151	Welding I	2
MA 3.396B	Manufacturing Processes I	2
HV 3.123	Fundamental Shop Skills	3
WE 1.2800	Cooperative Work Experience	1
Winter Term		
HV 3.146	Pneumatic Brakes & Controls[1]	5
HV 3.134	Basic Hydraulics[1]	3
WD 4.152	Welding II	2
MTH 061	*Survey of Math Fundamentals*	*3*
WE 1.2800	Cooperative Work Experience	1
Spring Term		
HV 3.296	Steering, Suspension & Brakes	5
HV 3.132	Advanced Mobile Hydraulics[1]	5
WR 121	*English Composition*	*3*
MTH 063	*Industrial Shop Math*	*1*
WE 1.2800	Cooperative Work Experience	1
Fall Term - Second Year		
HV 3.295	Power Train Systems	10
HV 3.643	Customer Service	2
	Cultural Diversity & Global Awareness	*3*
WE 1.2800	Cooperative Work Experience	1
Winter Term		
HV 3.129	Heavy Equipment/Diesel Engines[1]	7
HV 3.140	Industrial Diesel Engine Fuel Systems[1]	3
	Science, Technology & Society	*3*
HE 252	*First Aid*	*3*
WE 1.2800	Cooperative Work Experience	1
Spring Term		
HV 3.130	Heavy Equipment/Diesel Tune-Up[1]	10
HV 3.303	Mobile Air Conditioning & Comfort Systems I[1]	3
SP 100	*Introduction to Speech Communication*	*3*
WE 1.2800	Cooperative Work Experience	1
	Total Credits Required:	**97**

CAREER AND TECHNICAL

Two-Year Certificate in Heavy Equipment/Diesel Technology

Course No.	Course Title	Credits
Fall Term - First Year		
HV 3.297	Electrical & Electronic Systems	10
WD 4.151	Welding I	2
HV 3.123	Fundamental Shop Skills	3
WE 1.2800	Cooperative Work Experience	1
Winter Term		
HV 3.146	Pneumatic Brakes & Controls[1]	5
HV 3.134	Basic Hydraulics[1]	3
WD 4.152	Welding II	2
MTH 060	Introduction to Algebra	4
WE 1.2800	Cooperative Work Experience	1

Spring Term		
HV 3.296	Steering, Suspension & Brakes	5
HV 3.132	Advanced Mobile Hydraulics[1]	5
WR 115	Introduction to College Writing	3
WE 1.2800	Cooperative Work Experience	1
Fall Term - Second Year		
HV 3.295	Power Train Systems	10
HV 3.643	Customer Service	2
MA 3.396B	Manufacturing Processes I	2
WE 1.2800	Cooperative Work Experience	1
Winter Term		
HV 3.129	Heavy Equipment/Diesel Engines[1]	7
HV 3.140	Industrial Diesel Engine Fuel Systems[1]	3
HE 252	First Aid	3
WE 1.2800	Cooperative Work Experience	1
Spring Term		
HV 3.130	Heavy Equipment/Diesel Tune-Up[1]	10
HV 3.303	Mobile Air Conditioning & Comfort Systems I[1]	3
SP 100	Introduction to Speech Communication	3
WE 1.2800	Cooperative Work Experience	1
	Total Credits Required:	**91**

TRANSFER

Associate of Science in Heavy Equipment/ Diesel Technology

The Heavy Equipment/Diesel Technology Associate of Science degree is designed to allow successful transfer of a student into a bachelor's degree program in Heavy Equipment/Diesel Technology. A bachelor's degree qualifies a student for job placement in corporate and management positions. The Associate of Science degree is available through special agreements. See program advisor for details.

History

See Social Science.

Home Economics

See Health and Human Sciences.

Horticulture

Program Contact:
Stefan Seiter

The Horticulture program provides a broad range of instructional services. It provides (1) occupational training for students who intend to receive a technical degree and work in horticulture; (2) supplemental technical training for current horticultural employees; (3) instruction for community members interested in a specific aspect of horticulture; and (4) instruction for students interested in continuing their education in a four-year college program.

The Horticulture curriculum is based on competencies identified and reviewed by industry representatives and agricultural educators. Students study principles of horticulture, crop science and soil science with an emphasis on sustainable production and ecologically sound resource management.

Students develop the skills necessary for entry-and mid-level technical employments and for entering a four-year college program. Opportunities exist for horticulture students in arboriculture, floriculture, greenhouse operation and management, landscape planning and maintenance, retail landscape and garden center sales, nursery operation and management, and turf management.

The Horticulture curricula lead to an Associate of Science (AS), Associate of Applied Science degree (AAS) or a One-Year Certificate.

Most classes in the Horticulture program are offered during the day, and part-time enrollment is common. Full-time students can complete the AAS degree in two years if they meet the prerequisite basic skill requirements as determined through the Computerized Placement Test. Many students start in the middle of the academic year. Some courses are only offered every other year.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Horticulture will:

- Transfer to a four-year horticulture college program.
- Communicate effectively about questions, ideas and concepts in plant science.
- Use acquired technical skills to manage plants in horticultural production systems.
- Develop creative solutions to production, environmental and social changes in the horticultural industry.

Students who successfully complete an Associate of Applied Science degree in Horticulture will:

- Propagate, grow, and maintain plants in landscapes and horticultural production systems.
- Develop creative solutions to production, environmental, and social issues in the horticultural industry.
- Successfully transfer to a four-year horticultural college program.
- Successfully compete in the job market for a position in the horticultural industry.

Students who successfully complete a One-Year Certificate in Horticulture will:

- Propagate, grow, and maintain plants in landscapes and horticultural production systems.
- Effectively adapt horticultural production systems to changing production, environmental, and social issues.
- Successfully compete in the job market for a position in the horticultural industry.

Program Requirements

Students are expected to have basic mathematical, reading, and writing skills. To graduate with an AAS degree, students need to complete a four-credit algebra course (MTH 065 Elementary Algebra) in addition to fulfilling other general education requirements.

Facilities

Instructional facilities, including a greenhouse, laboratories, garden field plots, ornamental gardens, and the campus grounds, are used for skill building and demonstrations.

TRANSFER

Associate of Science in Horticulture

See Appendix C for graduation requirements for the Associate of Science degree.

General Education Requirements **43**
Classes shown in italic are general education classes.

Program Requirements **47**

Course No.	Course Title	Credits
BI 211	*Principles of Biology*	*4*
BI 212	*Principles of Biology*	*4*
BI 213	Principles of Biology	4

1– Courses offered that term only.

CH 121	*College Chemistry* (Four credits apply toward general education requirements, one credit applies toward program.)	*4(1)*
CH 122	College Chemistry	5
CH 123	College Chemistry	5
CSS 205	Soils: Sustainable Ecosystems	4
CSS 215	Soil Nutrients and Plant Fertilization	3
EC 201	*Introduction to Microeconomics*	*3(1)*
HORT 226	Landscape Plant Materials	3
HORT 228	Landscape Plant Materials	3
HORT 260	Organic Farming & Gardening	3
HT 8.115	Greenhouse Management	3
HT 8.135	Turf Management I (offered alternate years)	3
HT 8.140	Landscape Maintenance (offered alternate years)	3
HT 8.141	Landscape Planning	3
MTH 111	*College Algebra* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
	Cultural Diversity	*3*
	Difference, Power & Discrimination	*3*
	Literature & the Arts	*3*
PE 231	*Lifetime Health & Fitness*	*3*
	Western Culture	*3*
SP 111	*Fundamentals of Speech*	*3*
WR 121	*English Composition*	*3*
	Writing Course	*3*
Select from the electives below		*2*
AG 111	Computers in Agriculture	2
ARE 211	Management in Agriculture	4
HORT 199	Horticulture: Special Studies	2
MTH 112	Trigonometry	5
PS 201	American Politics & Government	3
	Total Credits Required:	**90**

CAREER AND TECHNICAL

Associate of Applied Science in Horticulture

Students who pass a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

General Education Requirements **19**

See Appendix A for graduation requirements for the Associate of Applied Science degree. MTH 065 Elementary Algebra is required. Courses shown below in italics are general education classes.

Program Requirements **72**

Course No.	Course Title	Credits
AG 111	Computer in Agriculture	2
AG 8.131	Pest Management	3
AG 8.138	Irrigation Systems	3
BI 103	General Biology: The Dynamic Plant	4
CSS 205	Soils: Sustainable Ecosystems	4
CSS 215	Soil Nutrients & Plant Fertilization	3
HORT 228	Landscape Plant Materials	3
HT 8.102	Career Exploration Horticulture	1
HT 8.137	Plant Propagation	4
	Biological or Physical Science	8
SPN 101	*First-Year Spanish I* (Three credits apply toward general education requirements, one credit applies toward program.)	*(3)*1
MTH 065	*Elementary Algebra*	*4*
Select 30 credits from courses below including 3 to 5 credits of Cooperative Work Experience (CWE)		
AG 280C	CWE Horticulture	3-5
AG 8.130	Pesticide Safety	4
CSS 105	Soils and Man	3
HORT 226	Landscape Plant Materials	3
HORT 260	Organic Farming and Gardening	3
HT 8.115	Greenhouse Management	3
HT 8.132	Arboriculture I (offered alternate years; prerequisite for Aboriculture II)	3
HT 8.133	Arboriculture II (offered alternate years)	3
HT 8.135	Turf Management I (offered alternate years; prerequisite for Turf Management II)	3
HT 8.136	Turf Management II	3
HT 8.140	Landscape Maintenance (offered alternate years)	3
HT 8.141	Landscape Planning	3
HT 8.169	Tree Identification (offered alternate years)	3
Additional elective courses (see program advisor to select courses)		*6*
	Total Credits Required:	**91**

CAREER AND TECHNICAL

One-Year Certificate in Horticulture

Students who pass a computer proficiency test may substitute another elective for AG 111 Computers in Agriculture.

Course No.	Course Title	Credits
AG 111	Computers in Agriculture	2
AG 8.138	Irrigation Systems	3
BI 103	General Biology: The Dynamic Plant	4
CSS 205	Soils: Sustainable Ecosystems	4
CSS 215	Soil Nutrients & Plant Fertilization	3
HORT 228	Landscape Plant Materials	3
HT 8.102	Career Exploration Horticulture	1
HT 8.137	Plant Propagation	4
Select 12 credits from courses below:		
AG 8.130	Pesticide Safety	4
AG 8.131	Integrated Pest Management	3
CSS 105	Soils and Man	3
HORT 226	Landscape Plant Materials	3
HORT 260	Organic Farming and Gardening	3
HT 8.115	Greenhouse Management	3
HT 8.132	Arboriculture I (offered alternate years; prerequisite for Aboriculture II)	3
HT 8.133	Arboriculture II (offered alternate years)	3
HT 8.135	Turf Management I (offered alternate years; prerequisite for Turf Management II)	3
HT 8.136	Turf Management II (offered alternate years)	3
HT 8.140	Landscape Maintenance (offered alternate years)	3
HT 8.141	Landscape Planning	3
HT 8.169	Tree Identification (offered alternate years)	3
Other required courses: *Math and Writing courses at appropriate level (based upon placement test scores)*		*6*
	Total Credits Required:	**42**

Instructional Assistant

Program Contacts:
Liz Pearce, Christy Stevens

The Education/Child and Family Studies Department offers a one-year certificate and a two-year Associate of Applied Science degree to prepare individuals to work in classrooms as instructional assistants. Instructional assistants (IAs) help teachers maximize classroom learning for all students. Instructional assistants typically implement daily educational programs planned with teachers; maintain the environment, supplies, and equipment; maintain records; and participate in staff and team meetings. Many instructional assistants grade homework and tests. Under the direction and guidance of teachers, they may prepare lessons and instruct children. IAs assist and supervise students in lunchrooms, on school grounds and on field trips. They help with student behavior problems and report suspected cases of child abuse or neglect. In high

1– Courses offered that term only.

schools, IAs supervise study halls, libraries, and computer labs. Graduates of the program are prepared to work with students in grades K–12.

Instructional assistants need knowledge in teaching and the methods involved in learning and instruction. IAs who work with children are usually required to take courses or training to keep their skills up-to-date. Instructional Assistants who work in Title I programs are required to complete two years of college or the equivalent.

The one-year certificate can be applied toward the AAS in Instructional Assistant or toward the Associate of Arts Oregon Transfer or the Associate of Science with an emphasis in Elementary Education.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Instructional Assistant will:

- Evaluate behavior management and determine appropriate next steps.
- Identify and develop proactive learning environment strategies.
- Identify professional standards and implement practices and strategies for getting and keeping a job.
- Observe and record detailed objective data about a child.
- Develop and implement organizational and record keeping systems for classrooms.
- Utilize media and technology in instruction and record keeping.
- Communicate effectively with children and adults in one-on-one situations and in small group conversation.
- Assist teachers in implementing instruction in math, reading and writing.
- Assist teachers in implementing instruction with special needs and ESL children.

Program Requirements

Two programs are available for students who are interested in working in the K-12 setting: a one-year certificate in Instructional Assistant and a two-year Associate of Applied Science degree in Instructional Assistant. Due to recent Federal legislation, the No Child Left Behind law, it is recommended that you complete the two-year Associate of Applied Science degree. Students who have sufficient writing and math skills to enroll in Math 065 Elementary Algebra and Writing 121 English Composition may complete the AAS in two years. Students who need to upgrade their skills can complete the program in two years by taking summer classes. We recommend working with an Education advisor early in your program. Advisors can help you choose electives that will further your careers.

CAREER AND TECHNICAL

Associate of Applied Science in Instructional Assistant

General Education Requirements **19**
See Appendix A for graduation requirements for Associate of Applied Science degree.

Program Requirements **71**

Course No.	Course Title	Credits
CIS 125	Introduction to Software Applications	3
ED 101A	Observation & Guidance	3
ED 102A	Education Practicum	3
ED 123	Reading Instruction	4
ED 124	Mathematics & Science Instruction	4
ED 216	Purpose, Structure, Function of Ed in a Democracy	3
ED 219	Multicultural Issues in Educational Settings	3
ED 252	Behavior Management	3
ED 282	Working with Children with Special Needs	3
ED 7.710	Principles of Observation	3
ED 7.725	Job Search Skills	1
ENG 221	*Children's Literature*	*3*
HDFS 229	School-Age & Adolescent Development	3
MTH 065	*Elementary Algebra*	*4*
OA 121	Keyboarding	1-2
SP 218	*Interpersonal Communication*	*3*
WR 121	*English Composition*	*3*
	Health & Physical Education	*3*
	Science, Technology & Society	*3*
Select 33-34 additional credits in consultation with an Ed/C&FS advisor		*33-34*

Students who wish to specialize in Library Assisting should take the following classes as electives:

ED 7.740	Introduction to School Libraries (3 credits)
ED 7.741	Circulation of Library Materials (3 credits)
ED 7.742	Reference Materials and Services (3 credits)
ED 7.743	Collection Development (3 credits)
ED 7.744	Organization of Library Materials (3 credits)
ED 7.745	Online Information Literacy for Librarians (3 credits)
ED 7.746	Children's Literature & Reading Promotion (3 credits)
ED 7.747	Multicultural Literature K-12 (3 credits)
ED 7.748	Library Skill Curriculum (3 credits)
ED 7.749	Global Literature K-12 (3 credits)
ED 7.751	Reading Promotion/Reader's Advisory (3 credits)
ED 7.752	Design & Production of Library Resources (3 credits)

Total Credits Required: 90

CAREER AND TECHNICAL

One-Year Certificate in Instructional Assistant

Course No.	Course Title	Credits
ED 101A	Observation & Guidance	3
ED 102A	Education Practicum	3
ED 123	Reading Instruction	4
ED 124	Mathematics & Science Instruction	4
ED 252	Behavior Management	3
ED 282	Working with Children with Special Needs	3
ED 7.725	Job Search Skills	1
ENG 221	Children's Literature	3
HDFS 229	School-Age & Adolescent Development	3
MTH 060	Introduction to Algebra	4
OA 121	Keyboarding	1-2
SP 218	Interpersonal Communication	3
WR 121	English Composition	3
Select 6-7 additional credits in consultation with an Ed/C&FS advisor		*6-7*

Total Credits Required: 45

CAREER AND TECHNICAL

Certificate in Basic Library Instructional Assistant

The Basic Library Instructional Assistant Certificate is 18 credits and prepares students to work in school libraries as library assistants. Library assistants in schools need knowledge in library processes, collections, reference materials and children's literature. These 18 credits are the first half of the 36-credit certificate. All the courses for this certificate apply to the Instructional Assistant AAS degree.

Select 18 credits from the following classes *18*

ED 7.740	Introduction to School Libraries (3 credits)
ED 7.741	Circulation of Library Materials (3 credits)
ED 7.742	Reference Materials and Services (3 credits)
ED 7.743	Collection Development (3 credits)
ED 7.744	Organization of Library Materials (3 credits)
ED 7.745	Online Information Literacy for Librarians (3 credits)
ED 7.746	Children's Literature & Reading Promotion (3 credits)
ED 7.747	Multicultural Literature K-12 (3 credits)
ED 7.748	Library Skill Curriculum (3 credits)
ED 7.749	Global Literature K-12 (3 credits)
ED 7.751	Reading Promotion/Reader's Advisory (3 credits)
ED 7.752	Design & Production of Library Resources (3 credits)

Total Credits Required: 18

CAREER AND TECHNICAL

Certificate Library Instructional Assistant

The Library Instructional Assistant Certificate is 36 credits and prepares students to work in school libraries as library assistants. This certificate provides an in-depth study of library processes, collections, reference materials, children's literature and focuses on reading promotion. All the courses for this certificate apply to the Instructional Assistant AAS degree.

Take all of the following courses:

Course No.	Course Title	Credits
ED 7.740	Introduction to School Libraries	3
ED 7.741	Circulation of Library Material	3
ED 7.742	Reference Materials and Services	3
ED 7.743	Collection Development	3
ED 7.744	Organization of Library Materials	3
ED 7.745	Online Information Literacy for Librarians	3
ED 7.746	Children's Literature & Reading Promotion	3
ED 7.747	Multicultural Literature K-12	3
ED 7.748	Library Skill Curriculum	3
ED 7.749	Global Literature K-12	3
ED 7.751	Reading Promotion/Reader's Advisory	3
ED 7.752	Design & Production of Library Resources	3
	Total Credits Required:	**36**

Journalism and Mass Communications

Program Contact:
Linda Spain

The Journalism and Mass Communications program emphasizes writing for the print media and serves a twofold purpose: to prepare students for transfer to a four-year college or university and to provide entry-level skills to those who want to change careers. The journalism program maintains a co-curricular relationship with The Commuter, LBCC's award-winning student newspaper, providing first- and second-year students with hands-on training.

Students who intend to transfer to a four-year college or university can get a solid foundation in journalism skills at LBCC, from reporting and photography to writing and editing, which will prepare them to excel in a bachelor's degree program. At LBCC, they can choose between two associate degree programs: the Associate of Science (AS) or the Associate of Arts (Oregon Transfer). In all cases, they should consult with their LBCC advisor and make early contact with an advisor at the institution to which they plan to transfer.

Students who plan to transfer to the University of Oregon should pursue the Associate of Arts (Oregon Transfer) degree and should include journalism within their Arts and Letters requirements. (JN 201, JN 216, JN 217 and/or JN 134). See the graduation requirements for the Associate of Arts (Oregon Transfer) degree in Appendix B.

Students planning to transfer to Oregon State University (or to any other college without an accredited bachelor's program in journalism) should pursue the Associate of Science in Journalism and Mass Communications at LBCC. This transfer degree includes 25 lower-division journalism credits, as outlined below. Graduates can transfer to OSU and major in liberal studies with a concentration in mass communications or major in communications with a media minor.

Student Learning Outcomes

Students in this program will:

- Demonstrate an understanding of the role and significance of journalism in a democratic society.
- Demonstrate the ability to recognize news values and apply them in editorial decision-making.
- Demonstrate ability to research and synthesize facts needed to report on news events and issues.
- Demonstrate competence in writing both news and feature articles.
- Demonstrate ability to apply legal and ethical principles in news judgement.

Facilities

Facilities for the Journalism program include a modern computer-equipped newsroom and production lab overlooking the courtyard. Photography classes are supported by a series of fully equipped instructional darkrooms and electronic imaging labs.

TRANSFER

Associate of Science with an emphasis in Journalism and Mass Communications

See Appendix C for graduation requirements for the Associate of Science degree. General education requirement classes are shown in italic. Note: No credits may be used for more than one requirement.

General Education Requirements		**43**
Program Requirements		**47**
	Liberal Arts Core Requirements:	15
	For a list of Liberal Arts Core Requirements, please refer to Appendix D.	

Course No.	Course Title	Credits
For Journalism and Mass Communication Emphasis		
ART 261	Introduction to Photography	3
JN 134	Introduction to Photojournalism	3
JN 201	Media & Society	4
JN 215A	Journalism Lab (1 credit) (May be repeated for up to 3 credits)	3
JN 215B	Design & Production Lab (2 credits) (May be repeated for up to 6 credits)	6
JN 216	News Reporting & Writing	3
JN 217	Feature Writing	3
JN 280	Cooperative Work Experience	3
Select 4 elective credits.		*4*
	Total Credits Required:	**90**

Juvenile Corrections

See Criminal Justice.

Legal Administrative Assistant

Program Contact:
Nancy Noe

Additional Faculty:
Rosemarie Hubley, Mary Ann Lammers, Twila Lehman, Sally Stouder

Legal administrative assistants may work for attorneys in private or public practice, the judicial system, the government, or large corporations that have legal departments. They must be familiar with legal procedures and the judicial process. Although their work varies depending upon the type of employer, most legal administrative assistants prepare and process legal documents such as appeals and motions, fill out forms for clients, and either take dictation or transcribe letters and memos dictated by the attorney. They make photocopies of legal documents, letters, and other case materials and use computers to create other legal documents.

In larger offices, legal administrative assistants may supervise staff, and they may organize and order new books for the law library.

Coursework emphasizes legal terminology; preparing legal documents; and developing good word processing, English and communication skills. As a part of the program, students work for 240 hours in a legal-related office. The Legal Administrative Assistant program represents exciting and challenging opportunities for legal support staff. Students training in this field can easily enter other administrative support areas as well.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Legal Administrative Assistant will:

- Function effectively as a team member and/or leader.
- Interact effectively in oral and written communications.
- Use computers and other technology proficiently for administrative tasks.
- Demonstrate positive interpersonal interactions and diplomacy.
- Manage multi-tasks efficiently.
- Model professional and ethical behaviors, especially confidentiality, honesty and integrity.
- Participate in ongoing professional development and training.
- Solve problems using a variety of appropriate tools.
- Perform duties based on a legal knowledge base.
- Demonstrate effective, independent work skills and behavior.

Program Requirements

The Legal Administrative Assistant program is designed to be completed in two years. This assumes that the entering student already knows how to type by touch and has been placed at or above the following levels on the Computerized Placement Test: WR 121 English Composition and MTH 065 Elementary Algebra. It is advisable to take the Computerized Placement Test as early as possible. If developmental course work is required, we recommend that it be taken summer term prior to enrolling in the regular degree program. Pre-training might include: *OA 121 Keyboarding, OA 123A Typing Skillbuilding, RD 080 Developing Reading Skills or RD 090 Strategies for Effective Reading, WR 090 The Write Course, WR 115 Introduction to College Writing, MTH 020 Basic Mathematics, or MTH 060 Introduction to Algebra.* Students should work with an advisor to interpret test scores and get help in planning their program.

CAREER AND TECHNICAL

Associate of Applied Science in Legal Administrative Assistant

General Education Requirements 19

See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements 80

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 1250	Introduction to Windows	1
CJ 220	Introduction to Substantive Law	3
OA 2.500B	Business Orientation: Legal[1]	1
OA 2.515	Business Math	2
OA 2.652	Filing	1
OA 122	Formatting	2
OA 124	Typing: Speed & Accuracy Development	3
OA 201	Word Processing for Business: WordPerfect	3
Winter Term		
BA 226	Business Law	3
CIS 125S	Introduction to Spreadsheets	1
OA 2.505	Voice Recognition	2
OA 2.513	Numeric Keyboarding: Speed & Accuracy	1
OA 2.513P	Numeric Skillbuilding: Production	1
OA 2.588	Editing Skills for Information Processing	3
OA 2.675	Legal Practices, Procedures & Terminology I[1]	3
OA 202	Word Processing for Business: MS Word	3
Spring Term		
CJ 120	Introduction to the Judicial Process	3
OA 2.527	Applied Document Processing	3
OA 2.551	Communications in Business	4
OA 2.616	Job Success Skills: Legal[1]	1
OA 2.645	Administrative Procedures I[1]	4
OA 2.676	Legal Practices, Procedures & Terminology II[1]	3
Fall Term - Second Year		
BA 2.530	Practical Accounting I	4
OA 2.650	Management for the Office Professional	3
OA 203	Advanced Word Processing	3
PE 231	*Lifetime Health & Fitness*[2]	*3*
SP 218	*Interpersonal Communications*	*3*
Winter Term		
CJ 222	Procedural Law	3
OA 2.613	CWE for Office Professionals	4
OA 2.646	Project Management	4
OA 2.682	Desktop Publishing	3
	Science, Technology & Society	*3*
Spring Term		
BA 224	*Human Resource Management (3 credits) or*	
BA 285	*Business Relations/Global Economy (4 credits) or*	
EC 115	*Outline of Economics (4 credits)*	*(3)*1
	(Three credits apply toward general education requirements; one credit applies toward program.)	
MTH 065	*Elementary Algebra*	*4*
OA 2.613	CWE for Office Professionals	4
WR 121	*English Composition*	*3*
	Total Credits Required:	**99**

1– Courses offered that term only.
2– Other classes may substitute. See advisor.

Machine Tool Technology

Program Contact:
John Neidermann

Additional Faculty:
Lou Barbee

The Machine Tool Technology curriculum is designed to develop skills in a wide variety of machining processes, including operation of the drill press, engine lathe, vertical and horizontal milling machine, surface grinder, Computer Numerical Control Vertical Machining Center and Turning Center.

Students learn the basics of transforming raw material into finished parts. They study the principles of blueprint interpretation, material selection, operational sequence, machine operation, metal removal rates, deburring and final inspection. Students work through a sequence of assignments ranging from simple exercises to complex assemblies. Hands-on experience, lecture and discussion, textbooks, manuals, audiovisual aids and field trips are employed throughout. The "people skills" in finding and keeping a job are emphasized continually. Safety is stressed throughout the curriculum.

The Machine Tool Technology program offers training in the following categories:

- Associate of General Studies degree
- Machine Tool Technology One-Year Certificate (day classes)
- CNC Machinist Certificate (evening classes)

Student Learning Outcomes

Students who successfully complete a One-Year Certificate in Machine Tool Technology program will:

- Set up and operate manual machine tools including the mill, lathe, drill press, band saw, surface grinder, and hand tools.

- Write part programs, set up and operate CNC (computer numeric control) machine tool including the vertical machining center and the turning center.
- Use Mastercam software to design toolpaths and generate NC machine code for CNC machine tools.
- Understand inspection technologies and geometric dimensioning and tolerancing.
- Interpret technical drawings and blueprints.
- Understand tooling technology as it relates to metal removal.
- Understand lean manufacturing strategies.

Facilities

The lab facilities and machine selection are designed to allow comprehensive instruction in the tools of the machinist's trade. Care has been taken to allow enough time in actual machine operation for the student to become competent. Training is provided in ANSI/EIA NC code (G & M code) programming for the modern CNC turning center and CNC vertical machining center. Students need not have their own tools to enter the program, but are urged to buy tools before graduation and employment.

CAREER AND TECHNICAL

Machine Tool Technology One-Year Certificate

Course No.	Course Title	Credits
Fall Term		
MA 3.396	Manufacturing Processes I[1]	6
MA 3.405	Inspection I[1]	2
MA 3.409	Introduction to CNC[1]	2
MA 3.413	Lean Manufacturing & Productivity[1]	2
MA 3.414	Tool Technology[1]	1
MA 3.431	Basic Print Reading: Metals[1]	2
MTH 060	Introduction to Algebra	4
Winter Term		
MA 3.397	Manufacturing Processes II[1]	6
MA 3.406	Inspection II[1]	3
MA 3.412	CAM 1[1]	4
MA 3.420	CNC: Mill	4
	Approved elective	3
Spring Term		
MA 3.398	Manufacturing Processes III[1]	6
MA 3.421	CNC: Lathe[1]	4
MA 3.414	Tool Technology[1]	1
WR 095	College Writing Fundamentals	3
	Approved elective	3
	Total Credits Required:	**58**

Approved electives:

MA 3.396B	Manufacturing Processes I (2 credits)
MA 3.397B	Manufacturing Processes II (2 credits)
MA 3.398B	Manufacturing Processes III (2 credits)
MA 3.407	Math for NC Machinists (1 credit)
MA 3.416	CNC: Special Projects (1-3 credits)
MA 3.432	Introduction to Mastercam (3 credits)
MA 3.433	Mastercam II: Surfaces (3 credits)
MA 3.434	Mastercam III: Solids (3 credits)
MA 3.427	Solid Works I (3 credits)
MA 3.428	Solid Works II (3 credits)

1– Courses offered that term only.

CAREER AND TECHNICAL

CNC Machinist Certificate

Course No.	Course Title	Credits
Fall Term		
MA 3.407	Math for NC Machinists	1
MA 3.420	CNC: Mill	4
MA 3.432	Introduction to Mastercam	3
Winter Term		
MA 3.421	CNC: Lathe	4
MA 3.433	Mastercam II: Surfaces	3
MA 3.427	Solid Works I	3
Spring Term		
MA 3.416	CNC: Special Projects	3
MA 3.428	Solid Works II	3
MA 3.434	Mastercam III: Solids	3
	Total Credits Required:	**27**

TRANSFER

Articulated Transfer to Oregon Institute of Technology – Manufacturing Engineering Technology

Linn-Benton Community College offers this pre-Manufacturing Engineering Technology transfer option in preparation for transfer to Oregon Institute of Technology. Under this agreement the following courses will be accepted towards completion of the Bachelor of Science–Manufacturing Engineering Technology at Oregon Institute of Technology. Students can complete an Associate of General Studies at LBCC and transfer to OIT as a junior by following this program of study.

Fall Term – First Year		
ENGR 111	Engineering Orientation I	4
MA 3.396	Manufacturing Processes I	6
MTH 111	College Algebra	5
WR 121	English Composition	3
Winter Term		
MTH 112	Trigonometry	5
PE 231	Lifetime Health & Fitness	3
WD 4.151	Welding I	2
WR 122	English Composition: Argument	3
	Humanities/Social Science Elective (see advisor)	3
Spring Term		
MA 3.437	Materials Science	3
MTH 251	Differential Calculus	5
SP 111	Fundamentals of Speech	3
WR 227	Technical Writing	3
	Humanities/Social Science Elective (see advisor)	3
Fall Term – Second Year		
EG 4.411	CAD[1]	4
ENGR 211	Statics	4
MA 3.397	Manufacturing Processes II	6
MTH 243	Introduction to Statistics	4
PH 201	General Physics	5
Winter Term		
EG 4.421	CAD II	4
EG 4.446	Strength of Materials	3
MTH 265	Statistics for Scientists and Engineers	4
PH 202	General Physics	5
	Humanities/Social Science Elective (see advisor)	3
Spring Term		
CH 150	Preparatory Chemistry	3
EG 4.470	Geom. Dimensioning & Tolerancing	3
	Humanities/Social Science Elective (see advisor)	3
	Any CS/CIS programming (C or C++, Visual Basic)	4
	Total Credits Required: 101-105	

Mathematics

Program Contact:
Cathy Lovingier

Additional Faculty:
Andrea Bell, Mary Campbell, Jeff Crabill, Hollis Duncan, Nicole Francis, Rob Lewis, Debbie Love, Angela Martinek, Roger Maurer, Bethany Pratt, Sharon Rodecap, Lynn Trimpe

The Mathematics Department provides courses for students in the college's technical and professional programs as well as a full complement of courses for transfer students. The department also offers classroom-based and online developmental courses for students who have little mathematics in their background or who are returning to school.

The Mathematics Department offers a two-year Associate of Science degree with an emphasis in mathematics designed for students who plan to transfer to a four-year institution to complete a baccalaureate degree in mathematics. This program provides those students with a solid foundation in mathematics and physics. Students who enter the program with a strong high school mathematics and science background can expect to complete it in two years. Students who must take pre-calculus mathematics courses should expect to spend more than two years in the program.

Many students combine mathematics with another discipline in a bachelor's degree program at a four-year school. Students completing the Associate of Science with a major emphasis in Mathematics at LBCC need an additional 55 hours of mathematics, computer science and statistics at Oregon State University, together with university core requirements, to earn the Bachelor of Science degree in mathematics.

Entry-level mathematicians need at least a bachelor's degree; most jobs require higher degrees. Math is used in many fields, including engineering and economics. The work of mathematicians falls into two categories: theoretical and applied. Theoretical mathematicians study and test new mathematical ideas or theories. Applied mathematicians use math theories to solve problems. Most people who work in applied math are not called mathematicians but have job titles such as statisticians, actuaries and operations research analysts.

Student Learning Outcomes

Students who successfully complete the Associate of Science degree with an emphasis in Mathematics will:

- Solve problems collaboratively using a process that fosters a supportive environment, invites active participation, and leads to a solution that reflects the contributions of all team members.
- Communicate mathematics, both verbally and in writing, in a patient and non-threatening manner, using vocabulary appropriate to the audience.
- Be confident, persistent, and open to alternate approaches when confronting a problem-solving situation.
- Use mathematical tools and basic content skills proficiently on the job and at the four-year or other institution.
- Use appropriate learning strategies, technology, and other tools effectively in daily life and for ongoing personal and professional development.
- Apply quantitative thinking processes and reasoning skills across disciplines in school, on the job, and in daily life.

Program Requirements

High school students preparing for entry into the associate degree program are urged to take chemistry, physics and all the mathematics courses available at their schools. Students who must take pre-calculus courses at LBCC should expect to spend more than two years in the program.

Facilities

The Mathematics Department operates a computer classroom/lab that provides support for a variety of courses in the Math and Science Division including engineering, physics, agricultural science, nutrition, and others, as well as general assistance to students. The department also participates in the operation of the Learning Centers and Math Labs at the Albany campus and each center. Together, these facilities offer individualized assistance, tutoring, testing, and resource materials.

TRANSFER

Associate of Science with an emphasis in Mathematics

See Appendix C for graduation requirements for Associate of Science.

General Education Requirements 43
The mathematics and physical science requirements are met by the listed major requirements.

Program Requirements 47

Course No.	Course Title	Credits
	Computer Science (a high-level programming course such as CS 133U or CS 133V)	4
MTH 231	Elements of Discrete Mathematics	4
MTH 251	Differential Calculus	5
MTH 252	Integral Calculus	5
MTH 253	Calculus	4
MTH 254	Calculus	4
MTH 255	Vector Calculus	4
MTH 256	Applied Differential Equations	4
PH 211	General Physics w/Calculus	5
Select 16 elective credits from the following courses		*16*
BA 211	Principles of Accounting (4 credits)	
BA 213	Principles of Accounting (4 credits)	
BI 101	General Biology (4 credits)	
BI 102	General Biology (4 credits)	
BI 103	General Biology (4 credits)	
BI 211	Principles of Biology (4 credits)	
BI 212	Principles of Biology (4 credits)	
BI 213	Principles of Biology (4 credits)	
CH 121	College Chemistry (5 credits)	
CH 122	College Chemistry (5 credits)	
CH 123	College Chemistry (5 credits)	
CH 221	General Chemistry (5 credits)	
CH 222	General Chemistry (5 credits)	
CH 223	General Chemistry (5 credits)	
CS 161	Introduction to Computer Science I (Java) (4 credits)	
CS 162	Introduction to Computer Science II (Java) (4 credits)	
EC 201	Introduction to Microeconomics (4 credits)	
EC 202	Introduction to Macroeconomics (4 credits)	
GS 105	Physical Science: Principles of Chemistry (4 credits)	
GS 106	Physical Science: Principles of Earth Science (4 credits)	
GS 108	Oceanography (4 credits)	
MTH 111	College Algebra (5 credits)	
MTH 112	Trigonometry (5 credits)	
MTH 211	Fundamentals of Elementary Mathematics I (4 credits)	
MTH 212	Fundamentals of Elementary Mathematics II (4 credits)	
MTH 213	Fundamentals of Elementary Mathematics III (4 credits)	
MTH 232	Elements of Discrete Mathematics (4 credits)	
MTH 243	Introduction to Statistics (4 credits)	
MTH 245	Math for Biological/Management/Social Sciences (4 credits)	
MTH 265	Statistics for Scientists & Engineers (4 credits)	
PH 104	Descriptive Astronomy (4 credits)	
PH 212	General Physics with Calculus (5 credits)	
PH 213	General Physics with Calculus (5 credits)	

Total Credits Required: 90

Medical Assistant

Program Contact:
Rick Durling

Additional Faculty:
Kathy Durling, Rosemarie Hubley, Mary Ann Lammers, Twila Lehman, Nancy Noe, Sally Stouder

The Medical Assistant program is a two-year program that trains students in office administrative and medical skills. The ability to work well with people is the primary requisite for becoming a medical assistant. Medical assistants perform a limited number of basic medical duties that may include taking medical histories; recording patients' weight, pulse rate, blood pressure, and other vital signs; collecting and preparing laboratory specimens; preparing patients for X-rays; taking EKGs; changing bandages and removing stitches. In smaller offices, they also have clerical duties, which may include filling out insurance forms and scheduling appointments. Some assistants also handle billing and bookkeeping.

Typical working conditions require medical assistants to:

- lift/carry/push/pull and move heavy objects, patients, supplies and equipment (up to 50 lbs. or more);
- perform the full range of manual and finger dexterity and eye-hand coordination;
- stand and walk for prolonged periods;
- reach, stoop, bend, kneel, crouch, stretch and squat;
- distinguish letters and symbols and, with corrected normal vision and hearing, be able to distinguish changes in a patient's condition;
- not have color blindness.

New technology is introduced through concept courses and hands-on experience with modern equipment. Some classes may be held off campus in a medical facility. A supervised externship in a participating health care facility is required.

LBCC's Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE). CAAHEP may be reached at the Commission on Accreditation of Allied Health Education Programs, 35 East Wacker Drive, Suite 1970, Chicago, IL 60601-2208 (312) 553-9355 or at www.caahep.org.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science degree with an emphasis in Medical Assistant will:

- Function effectively as a team member and/or leaders.
- Interact effectively in oral and written communications.
- Use computers and other technology proficiently for administrative and clinical tasks.
- Use appropriate medical equipment proficiently to perform clinical tasks.
- Demonstrate positive interpersonal interactions and diplomacy.
- Manage multi-tasks efficiently.
- Model professional and ethical behaviors, including confidentiality.
- Participate in ongoing professional development and training.
- Think critically by anticipating, initiating, and participating in problem-solving processes.
- Function within legal scope of practice.
- Participate in patient education.
- Prioritize and organize tasks.
- Demonstrate proficiency in administrative and clinical content areas.

1– Courses offered that term only.

Program Requirements

The Medical Assistant program is designed to be completed in two years. This assumes, however, that the entering student already knows how to type by touch and has been placed at or above the following levels on the Computerized Placement Test: WR 121 English Composition and MTH 060 Introduction to Algebra. It is advisable to take the Placement Test as early as possible. If developmental coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular degree program. Pre-training might include some or all of the following courses: CIS 1250 Introduction to Windows, OA 121 Keyboarding (2 credits), RD 080 Developing Reading Skills or RD 090 Strategies for Effective Reading (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits), MTH 060 Introduction to Algebra (4 credits). Students should work with an advisor to interpret test scores and plan their program.

Students must have completed the hepatitis B immunizations series prior to enrolling in the phlebotomy class. Prior to externships, all students must show proof of a physical examination and current immunization status for measles, tetanus and TB screening.

Licensing for medical assistants is not required, but optional certification is available. Graduates of the program are eligible to take the national certifying examination given through the American Association of Medical Assistants (AAMA); successful completion results in a Certified Medical Assistant credential. Although certification is not required by any state, some employers prefer workers who are certified or registered. Some states may require medical assistants to take a training program or an exam before doing procedures such as drawing blood and giving injections.

Students going into the Medical Assistant program need to complete a Criminal Background Check (CBC) as early as possible in the first near of the program. It is possible that prior criminal convictions may affect the student's ability to complete the program.

Beginning winter term of their second year, students should expect that they will not be able to enroll in any additional second-year courses without completion of all first-four quarter courses in their entirety. (See catalog program requirements.)

Note: A student who has committed a felonious crime may be denied the right to take the national certification exam. Petitions may be sent to the American Association of Medical Assistants, 20 N. Wacker Dr. #1575, Chicago, IL 60606-2903.

CAREER AND TECHNICAL

Associate of Applied Science in Medical Assistant

General Education Requirements 19
See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements 82

Course No.	Course Title	Credits
Fall Term - First Year		
MO 5.550	Human Relations in Health Care[1]	3
MO 5.630	Medical Terminology & Body Systems I	3
OA 2.500C	Business Orientation/Medical[1]	1
OA 2.544	Medical Insurance Procedures	4
OA 2.588	Editing Skills for Information Processing	3
OA 202	Word Processing for Business: MS Word	3
Winter Term		
MO 5.414	Drug Names & Classifications	3
MO 5.631	Medical Terminology & Body Systems II	3
MTH 065	*Elementary Algebra*	*4*
OA 2.656M	Medical Information Processing	3
OA 2.671	Medical Law & Ethics[1]	3
OA 123A	Typing Skillbuilding	2

Spring Term

BI 103	General Biology: Human Body	4
HE 112	*Emergency First Aid*	*1*
MO 5.632	Medical Terminology & Body Systems III	3
MO 5.665	Documentation & Screening in the Medical Office	2
OA 2.513	Numeric Keyboarding: Speed & Accuracy	1
OA 2.513P	Numeric Skillbuilding: Production	1
OA 2.616	Job Success Skills[1]	1
OA 2.672	Basic Coding	3
PE 180/185/190	*Physical Education Activity Course*	*1*

Fall Term - Second Year

HE 261A	*CPR for Professional Rescuers*	*1*
MO 5.625	Basic Clinical Office Procedures[1]	5
MO 5.661	Physician's Office Lab Procedures[1]	3
OA 2.515M	Business Math: Medical I	1
OA 2.515MA	Business Math: Medical II	1
OA 2.670	Medical Office Procedures	4
	Science, Technology & Society	*3*

Winter Term

MO 5.626	Advanced Clinical Office Procedures[1]	5
MO 5.640	Administrative Externship	3
MO 5.650	Basic Electrocardiogram Techniques[1]	1
MO 5.655	Phlebotomy for Medical Assistants[1]	2
OA 2.612	CWE/Externship Seminar	1
OA 2.691	Preparation for Certifying Exam (Administrative)[1]	1

Spring Term

BA 224	*Human Resources Management (3 cr) or*	
SPN 101	*First-year Spanish I (4 cr)* (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
MO 5.641	Clinical Externship	6
MO 5.662	Preparation for Certifying Exam (Clinical)	1
OA 2.612	CWE/Externship Seminar	1
SP 218	*Interpersonal Communication*	*3*
WR 121	*English Composition*	*3*
	Total Credits Required:	**101**

Medical Office Specialist

Program Contacts:
Sally Stouder

Additional Faculty:
Kathy Durling, Rick Durling, Rosemarie Hubley, Mary Ann Lammers, Twila Lehman, Nancy Noe

The Medical Office Specialist is a one-year program preparing people for entry-level positions as records clerks, ward clerks or receptionists in medical offices or hospitals. Students can choose between an emphasis in transcription or coding and billing skills. The required coursework lays the foundation for a two-year program for those students who want to continue their education to become an administrative medical assistant or medical assistant.

A person wanting to become a medical office specialist should have the ability to get along well with people and be comfortable working in a medical atmosphere. A successful medical office specialist must be reliable and enjoy detail work.

Student Learning Outcomes

Students who successfully complete a One-year Certificate in Medical Office Specialist will:

- Function effectively as a team member and/or leaders.
- Interact effectively in oral and written communications.
- Use computers and other technology proficiently for administrative tasks.
- Demonstrate positive interpersonal interactions and diplomacy.
- Manage multi-tasks efficiently.
- Model professional and ethical behaviors, especially confidentiality and compassion.
- Participate in ongoing professional development.
- Solve problems using a variety of appropriate tools.
- Identify process improvement skills.

Program Requirements

This program is designed to be completed in one year, but this assumes that the entering student already knows how to type by touch and has been placed at or above the following levels on the Placement Test: WR 115 Introduction to College Writing and MTH 060 Introduction to Algebra. It is advisable to take the test as early as possible. If developmental coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular certificate program. Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 080 Developing Reading Skills (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits). Students should work with an advisor to interpret the test scores and get help in planning their program.

Facilities

Skills classes are taught in office laboratory classrooms at your own pace. New technology is introduced both through concepts courses and through hands-on experience with microcomputers and word processing.

CAREER AND TECHNICAL

One-Year Certificate in Medical Office Specialist

Course No.	Course Title	Credits
Fall Term		
CIS 1250	Introduction to Windows	1
MO 5.630	Medical Terminology & Body Systems I	3
OA 2.500C	Business Orientation: Medical[1]	1
OA 2.544	Medical Insurance Procedures	4
OA 2.588	Editing Skills for Information Processing	3
OA 122	Formatting	2
OA 202	Word Processing for Business: MS Word	3
Winter Term		
MO 5.631	Medical Terminology and Body Systems II	3
MO 5.665	Documentation & Screening in the Medical Office	2
OA 2.513	Numeric Keyboarding: Speed and Accuracy	1
OA 2.513P	Numeric Skillbuilding: Production	1
OA 2.656M	Medical Information Processing	3
OA 2.671	Medical Law & Ethics[1]	3
OA 123A	Typing Skillbuilding	2
	Approved Electives	3
Spring Term		
MO 5.414	Drug Names & Classifications	3
MO 5.632	Medical Terminology & Body Systems III	3
OA 2.515M	Business Math: Medical I	1
OA 2.616	Job Success Skills[1]	1
OA 2.670	Medical Office Procedures	4
	Approved Electives	3
	Total Credits Required:	**50**

Approved electives: Take credits from either group.

Transcription option:

OA 2.524	Medical Transcription I	3
OA 2.527	Applied Document Processing	3

1– Courses offered that term only.

Coding option:

OA 2.672	Basic Coding	3
OA 2.680	Advanced Coding	3
OA 2.681	Coding in the Hospital Environment	3

Medical Transcriptionist

Program Contact:
Twila Lehman

Additional Faculty:
Kathy Durling, Rick Durling, Rosemarie Hubley, Mary Ann Lammers, Nancy Noe, Sally Stouder

The one-year Medical Transcriptionist program prepares individuals for entry-level positions in transcribing medical records at hospitals and clinics. Emphasis is placed on medical terminology, English, transcription and word processing skills. Job opportunities are good, and pay is above average compared to other administrative professional/clerical positions. Medical transcriptionists can easily work part time if they choose to do so.

Skills are taught in self-paced office laboratory classrooms. New technology is introduced both through concepts courses and through hands-on experience with modern equipment.

Student Learning Outcomes

Students who successfully complete the One-Year Certificate in Medical Transcriptionist will:

- Function effectively as a team member and/or leaders.
- Interact effectively in oral and written communications.
- Demonstrate the efficient and productive use of computers and other technology to transcribe and produce a myriad of medical reports.
- Demonstrate positive interpersonal interactions and diplomacy, while working with a variety of medical personnel in a clinical setting.
- Model professional and ethical behaviors, especially confidentiality and compassion.
- Participate in ongoing professional development.
- Solve problems using a variety of appropriate tools.
- Identify process improvement skills.

Program Requirements

In order to complete the program in one year, new students should have basic typing skills. A person wanting to become a medical transcriptionist should have an interest in working in a medical atmosphere and be comfortable with working at a job that entails almost exclusively the typing of medical reports from dictation equipment.

The Medical Transcriptionist program is designed to be completed in one year. This assumes, however, that the entering student already knows how to type by touch and has been placed at or above the following levels on the Placement Test: WR 115 Introduction to College Writing and MTH 060 Introduction to Algebra. It is advisable to take the Computerized Placement Test as early as possible. If developmental coursework is required, we recommend that it be taken the summer term prior to enrolling in the regular certificate program.

Pre-training might include some or all of the following courses: OA 121 Keyboarding (2 credits), RD 080 Developing Reading Skills or RD 090 Strategies for Effective Reading (3 credits), WR 075 Spelling (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits). Students should work with their advisors to interpret the test scores and get help planning their program.

Facilities

Students learn at their own pace in office laboratory classrooms. New technology is introduced both through concepts courses and through hands-on experience with modern equipment.

CAREER AND TECHNICAL

One-Year Certificate in Medical Transcriptionist

Course No.	Course Title	Credits
Fall		
CIS 1250	Introduction to Windows	1
MO 5.630	Medical Terminology and Body Systems I	3
OA 2.500C	Business Orientation: Medical[1]	1
OA 2.588	Editing Skills for Information Processing	3
OA 122	Formatting	2
OA 123A	Typing Skillbuilding (2 credits) and	
OA 123B	Advanced Typing Skillbuilding (2 credits) or	
OA 124	Typing: Speed & Accuracy Development (3 credits)	3-4
OA 202	Word Processing for Business: MS Word	3
Winter		
MO 5.414	Drug Names & Classifications	3
MO 5.631	Medical Terminology and Body Systems II	3
OA 2.505	Voice Recognition	2
OA 2.527	Applied Document Processing	3
OA 2.656M	Medical Information Processing	3
OA 2.671	Medical Law & Ethics[1]	3
Spring		
MO 5.632	Medical Terminology and Body Systems III	3
OA 2.513	Numeric Keyboarding: Speed & Accuracy	1
OA 2.513P	Numeric Skillbuilding: Production	1
OA 2.515M	Business Math: Medical I	1
OA 2.529	Applied Medical Transcription	5
OA 2.616	Job Success Skills[1]	1
OA 2.670	Medical Office Procedures	4
	Total Credits Required:	**49-50**

Music

Program Contact:
Susan Peck

The Music program at LBCC not only offers students academic opportunities in music, it also gives them a chance to participate in top-quality performing groups. On campus, students can work on individual music skills and begin some of the preliminary music courses for transfer to a four-year college or university. Individual lessons are available in voice and a wide variety of instruments. Introduction to Rock Music (MUS 105), Music Appreciation (MUS 161) and Introduction to Jazz (MUS 205) support general education degree requirements in the arts.

Students also have the opportunity to perform in groups. The LBCC Concert Choir and Chamber Choir are on campus, and students can perform in instrumental groups in cooperation with the Music Department at Oregon State University. Auditions may be required for some performance groups; check with your faculty advisor.

The Performing Arts Department offers an Associate of Science degree in Music. A student finishing this degree will be prepared to enter OSU as a liberal studies or music student.

For information on music and related careers, plus the current employment outlook, access the Oregon Career Information System (CIS) located in the Career Center, Takena Hall 101.

Student Learning Outcomes

Students who successfully complete the Associate of Science degree with an emphasis in Music will:

- Work with others in a collaborative effort.
- Demonstrate performance skills.
- Show an aesthetic appreciation of music.

Program Requirements

The Music Program requires participation in at least one performance group from a choice of Concert Choir, Chamber Choir and instrumental groups in cooperation with the Music Department at Oregon State University. Auditions may be required. A limited number of tuition grants are available for students participating in a performance group.

TRANSFER

Associate of Science with an emphasis in Music

See Appendix C for graduation requirements for the Associate of Science degree. Note: No credits may be used for more than one requirement.

General Education Requirements	**43**
Program Requirements	**47**
Liberal Arts Core Requirements	15
For a list of Liberal Arts Core Requirements, please refer to Appendix D.	

For Music Emphasis

Course No.	Course Title	Credits
MUS 101	Music Fundamentals	3
MUS 105	Introduction to Rock Music	3
MUS 161	Music Appreciation	3
MUS 205	Introduction to Jazz	3
Select at least three terms of performance classes from the list below:		
MP 101/201	Symphonic Band (1 credit)	
MP 102/202	Concert Band (1 credit)	
MP 103/203	Marching Band (1 credit)	
MP 104/204	Pep Band (1 credit)	
MP 122/222	Concert Choir (2 credits)	
MP 131/231	Chamber Choir (2 credits)	
MP 141/241	Symphony Orchestra (1 credit)	
MP 151/251	Rehearsal & Performance (1 credit)	
	Performance	3-6
Select elective credits to total not less than 90 credits. Select from MUS, MP, SP or TA prefixes.		*14-17*
	Total Credits Required:	**90**

Network and Systems Administration

Program Contact:
Linda Carroll

Additional Faculty:
David Becker, Dodi Coreson, Joe Paris, Parker Swanson

This program was previously called Business Computer Systems. Students who began the program under that title should see an advisor for completion requirements.

The Network and Systems Administration program develops graduates who are able to enter the job market successfully as network technicians, junior network administrators, and junior system administrators. The program provides foundational skills, which provide a firm basis for lifelong, on-the-job learning and professional growth.

The first year of the program includes a sequence of four courses, which prepares students who wish to take the examination for Cisco Certified Network Associate® (CCNA) certification. The first year also includes courses in software applications, programming, and Web development.

The second year of the program includes a sequence of advanced courses in the administration of client/server network operating systems, script programming, and a course in network and system security. The second year also includes valuable cooperative work experience in the information technology field, arranged with one of a number of local public or private organizations.

The Certificate in Basic Networking is designed to help students develop skills to administer and manage computer networks and assume the role of a network technician. The courses examine and illustrate network terminology, protocols, standards, local and wide area networks (LANS/WANS), OSI model, cabling, network topology, troubleshooting, IP addressing, ISDN, ATM, frame relay, and dial-up services. Skill classes are taught in a laboratory setting, online simulation, lecture, and online curriculum. This certificate program is designed to be completed in one year in sequence, beginning with the first class in Fall Term and ending with the last class offered during the last five weeks of Spring Term. This assumes, however, that the entering student already has some working knowledge and familiarity with computer systems and software. Individual courses also may assist the student in preparing for related industry information technology exams (CCNA, CompTIA, MCSE). Students should contact an advisor to discuss this certificate program and the necessary basic skill set prior to enrolling in courses. All the required courses can be applied toward the Network and Systems Administration two-year of Applied Science degree.

The Certificate in Systems Administration is a two-year, 28-credit certificate that prepares students for entry into the Information Technology field as administrators of Network Operating Systems. These systems typically incorporate a large number of client enterprise-wide resources and connectivity through a computer network. This certificate program teaches foundational skills that provide a basis for lifelong on-the-job learning and professional growth. The required courses for this certificate can all be applied toward the Network and Systems Administration two-year Associate of Applied Science degree.

To begin this certificate the assumption is made that the entering student already has some working knowledge and familiarity with computer systems and software. The following corequisite (or equivalent as determined by a Computer Systems Department advisor) courses need to be completed prior to or during the first term: CIS 125 Introduction to Software Applications, with a minimum "C" grade and MTH 095 Intermediate Algebra, with a minimum "C" grade. The certificate program includes five laboratory courses in which students practice hands-on administration of three different Network Operating Systems, all of which are commonly deployed in enterprises in the LBCC region. Also included in the certificate program are courses in Networking Essentials, Orientation to Computer Science, and Security and Information Assurance.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Network and Systems Administration will:

- Analyze and program to solve computation problems using various program languages.
- Design and utilize a database system using SQL.
- Communicate and work effectively in a technical computer environment.
- Solve business-related computer problems.
- Obtain practical experience working in a business computer field.
- Be prepared to take and pass the CCNA exam.
- Solve problems with a group or team.

- Demonstrate professional skills while dealing with people with technical problems and write directions they can follow.
- Understand the principles of management.
- Provide technical support for hardware, software, and networks.
- Apply a basic system design in a business environment.

Program Requirements:

Students considering a major in Network and Systems Administration should be aware that this is a challenging program which requires a full-time commitment. The sequence of courses begins in fall term and continues for six terms (not including Summer term). Although there is a small amount of flexibility in the time some courses can be taken, students who intend to complete the program in two years should plan to begin in fall term and pursue it full time. Students should also be sure to meet with a program advisor regularly to insure that coursework is on track.

Facilities

The students in this program spend a considerable amount of their time working on computers. Campus labs are well-equipped with modern hardware and software. Students have access to networked IBM-compatible personal computers for completing assignments.

CAREER AND TECHNICAL

Associate of Applied Science in Network and Systems Administration

General Education Requirements **19**

Program Requirements **78**

Course No.	Course Title	Credits
Fall Term - First Year		
CIS 125	Introduction to Software Applications	3
CS 160	Orientation to Computer Science	4
CIS 151	Networking Essentials[1]	4
WR 121	*English Composition*	*3*
	Health or Activity Course	*1*
Winter Term		
BA 285	*Business Relations in a Global Economy* (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
CS 161	Introduction to Computer Science I (Java)	4
	Health or Activity Course	*1*
CIS 152	Network Router Configuration[1]	4
MTH 111	*College Algebra* (Four credits apply toward general education requirements; one credit applies toward program.)	*(4)1*
Spring Term		
BA 271	Information Technology in Business	3
CIS 153	LANs & Internetwork Design[1]	4
CIS 154	WAN Design[1]	4
CS 140U	Fundamentals of UNIX/Linux[1]	4
Fall Term - Second Year		
CIS 195	Web Development I	4
CS 227S	Systems Support: Software[1]	3
CS 279	Network Management	4
	Science, Technology & Society	*3*
Winter Term		
CS 244	Systems Analysis & Project Management[1]	4
CS 240A	Microsoft Windows® Server Administration I	4
CS 275	Database Systems: SQL & Oracle	4
	Health or Activity Course	*1*
CS 133J	Javascript[1]	4
Spring Term		
CS 240B	Microsoft Windows® Server Administration II	4
CS 280	CWE Computer Systems	3
CS 284	Introduction to Computer Security & Information Assurance[1]	4
SP 100	*Introduction to Speech Communication*	*3*
WE 202	CWE Seminar (WE 202 and CS 280 must be taken together)	1
WR 227	Technical Writing	3
	Total Credits Required:	**97**

1– Courses offered that term only.

CAREER AND TECHNICAL

Certificate in Basic Networking

Course No.	Course Title	Credits
Fall Term		
CIS 151	Networking Essentials	4
Winter Term		
CIS 152	Network Router Configurations	4
Spring Term		
CIS 153	LANs & Internetwork Design	4
CIS 154	WAN Design	4
	Total Credits Required:	**16**

CAREER AND TECHNICAL

Certificate in Systems Administration

This certificate takes more than one year to complete as there are prerequisites for several courses. Please see an advisor in the Computer Systems Department for more information.

Course No.	Course Title	Credits
Fall Term		
CIS 151	Networking Essentials[1]	4
CS 140U	Fundamentals of UNIX® /Linux®	4
CS 279	Network Management[1]	4
Winter Term		
CS 160	Orientation to Computer Science	4
CS 240A	Microsoft Windows® Server Administration I[1]	4
Spring Term		
CS 240B	Microsoft Windows® Server Administration II[1]	4
CS 284	Intro to Computer Security & Information Assurance[1]	4
	Total Credits Required:	**28**

Nursing

Program Chair:
Faye Melius

Additional Faculty:
Virginia Brittsan, Roberta Bronson, Cindy Cameron, Suzanne Karlson, Bonnie Lassen, Suzanne Paul, Marcy Shanks

The Associate Degree Nursing program is approved by the Oregon State Board of Nursing. Open to both men and women, this two-year program is designed to train highly skilled nurses. Clinical facilities include hospitals, nursing homes and health care agencies in Linn and Benton counties.

The Nursing program accepts one class per year beginning fall term. Qualified applicants who have met the minimum admission standards are selected through a point system. The Associate Degree Nursing curriculum leads to an Associate of Applied Science degree. Graduates are eligible to take the National Council Licensing Examination for Registered Nurse licensing (NCLEX-RN).

Students who apply to the Nursing program should have a strong background that has prepared them for the educational challenges of first-and second-year coursework. Students are graded in all aspects of the program, including clinical practice. Evening clinicals are required. The student is expected to be an active participant on a daily basis.

In Oregon, registered nurses must be licensed. The Oregon State Board of Nursing reviews applicants for RN licensure upon completion of LBCC's Nursing program and is responsible for ensuring that approved applicants meet certain criteria regarding issues of substance abuse, criminal histories and felony convictions. Specific questions regarding these issues should be directed to the Oregon State Board of Nursing, Suite 465, 800 NE Oregon St. #25, Portland, OR 97232, (971) 673-0685.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science degree in Nursing will:

- Demonstrate effective communication with patients, family members and colleagues using verbal, written and information technology tools/devices.
- Exhibit caring and culturally sensitive personal behaviors.
- Review, evaluate and apply evidence based nursing interventions to improve patient outcomes.
- Practice within the legal and ethical standards of nursing.
- Use self-evaluation and constructive criticism to facilitate personal and professional growth.
- Delegate and supervise as a team member, selected care to other health care workers and oversee the delegated tasks care to promote shared goals to ensure positive care outcomes.
- Collaborate with other members of the health care team while functioning as an advocate of the patient and their families.
- Plan, coordinate, implement and evaluate nursing care designed to promote and maintain healthy outcomes for a group of patients using evidence based nursing interventions.
- Conduct the work of patient care in an organized, safe, reflective, and responsible manner.
- Use patho-physiological and behavioral science concepts to provide rationale for nursing care.
- Teach principles of wellness and restorative care to individuals and groups.

Program Requirements

All nursing courses must be completed at LBCC unless transfer credit is granted. Related courses may be taken prior to or concurrent with enrollment in the Nursing program. The student must achieve a minimum "C" grade in each required course, and courses must be taken in the specified sequence. Students who are unable to meet the required competency level for the program may be advised of other alternatives to meet their goals.

Special Requirements

For current requirements for entry into the Nursing program, contact Admissions at 917-4811 or look on the Web at www.linnbenton.edu/admissions and click on Forms, then Nursing Application.

Petition Process

A student may file a petition to waive minimum admission requirements or a petition for exceptions to the nursing point system. A committee meets periodically to consider these petitions.

1– Courses offered that term only.

6– These courses must have been completed within the last five years.

CAREER AND TECHNICAL

Associate of Applied Science in Nursing

General Education Requirements 19

See Appendix A for graduation requirements for the Associate of Applied Science degree. MTH 095 Intermediate Algebra is required. One of the following speech classes is required: SP 111 Fundamentals of Speech; SP 112 Introduction to Persuasion; or SP 218 Interpersonal Communication.

Program Requirements 76

Course No.	Course Title	Credits
Fall Term - First Year		
PSY 215	Introduction to Developmental Psychology	3
NUR 101	Nursing I[1]	9
RD 120	Critical Thinking	3
NUR 268A	Drug Therapy/Nursing Implications[1]	1
Winter Term		
BI 234	Microbiology[6]	4
NUR 102	Nursing II[1]	9
NUR 268B	Drug Therapy/Nursing Implications[1]	1
Spring Term		
NUR 103	Nursing III[1]	9
NUR 268C	Drug Therapy/Nursing Implications[1]	1
WR 227	Technical Writing	3
Fall Term - Second Year		
NUR 201	Nursing IV[1]	9
NFM 225	Nutrition	4
Winter Term		
NUR 202	Nursing V[1]	9
NUR 222	Contemporary Nursing	1
PSY 203	General Psychology	3
Spring Term		
NUR 203	Nursing VI[1]	7
	Total Credits Required:	**95**

Nursing Assistant

Course Contact:
Ann Custer, 917-4516

Nursing assistants work under the direction of nurses and doctors to give personal care to patients in hospitals and nursing homes. They set up and monitor equipment and record vital signs such as blood pressure, temperature, pulse and respiration. They move patients to examining or operating rooms, deliver meals, and help patients eat, dress, bathe and walk. They record the amount of food eaten and liquid output, they help patients with bedpans, and they clean rooms and change beds. Often they provide important observations of and communication with patients as directed by the supervising nurse or doctor.

LBCC's Nursing Assistant program is a 150-hour program fulfilling the Oregon State Board of Nursing requirements for nursing assistant training. Students will learn the knowledge and skills necessary to care for patients of all ages who are under the direct care of a licensed nurse in health care facilities.

The program has 75 hours of classroom and skills laboratory instruction and 75 hours of clinical experience. This program includes instruction in basic bedside nursing skills, basic restorative services, mental health and social service needs, personal care skills and patient rights. Following the successful completion of the course, the student may take the Board of Nursing Assistant Competency Exam (NCE) and apply for certification as a nursing assistant.

Interested students should contact the Health Occupations/Services Education Center Office at (541)917-4510. Instructor permission is required to register. Students must pass a reading test and show proof of immunizations and TB screening. Students must be deemed "qualified" on a criminal history screen to complete the clinical component of the course.

Student Learning Outcomes

Students in this program will:

- Practice and promote good health habits.
- Demonstrate an understanding of the nursing assistant role as a member of a health team.
- Develop desirable patterns of organization and execution of work habits.
- Observe and report symptoms that deviate from normal patterns.
- Recognize the mental health and social needs of the resident and take appropriate actions to help the resident meet their needs.
- Perform entry-level technical skills of bedside care including safety and infection control, selected therapeutic procedures, selected restorative procedures, personal care skills.
- Select appropriate actions that a nursing assistant might take as remedy using the Resident's Rights.

Program Requirements

A high school diploma or GED is recommended along with selected immunizations. It also is preferred that students be 16 years or older. You should be able to read English at the seventh grade level. You must be able to turn and lift patients; hear and see patients in need; engage in therapeutic communication; intervene in stressful interpersonal situations; make judgements under stress; and read and document medical information.

All students are advised to start the course registration process at a participating nursing facility. You will need to take the LBCC Reading Placement Test, have proof of freedom from tuberculosis and, if born after January 1, 1957, have proof of two rubella immunizations.

The LBCC reading test and the medical screening tests must be completed prior to registering for the class. It is your responsibility to supply the instructor with documentation.

Accreditation

The Nursing Assistant program is approved by the Oregon State Board of Nursing and by the Oregon Department of Education as a Career and Technical program.

Reading Tests

It is recommended that you complete the LBCC Computerized Placement Test (CPT) at the minimum 31st percentile rank or better in reading. If you test below the 31st percentile, you may re-test.

If your reading placement score is below the 31st percentile, and between the 21st and 30th percentile, see your instructor for advice on the appropriate coursework to take. LBCC has reading improvement, reading tutoring, and adult basic education courses available.

To schedule a reading test, call Student Assessment at 917-4781. You may take the reading test at the Extended Learning center nearest you. Please request and keep a copy of your test results to submit with your application.

Medical Screening

For patient/worker safety, all persons having contact with residents must have a negative tuberculosis test within the last nine months and proof of two MMR (measles/mumps/rubella) immunizations, if born after January 1, 1957. Contact your personal physician or local health department for TB testing and MMR:

Linn County Health Dept. 967-3888
Benton County Health Dept. 766-6835

Application Forms

Please contact Health Occupations/Services Education Center, (541) 917-4510, to find out which nursing facilities are participating. You will be required to submit a criminal history authorization form or complete and pay for a Web-based screening by Checkpoint. Students who are deemed "disqualified" will not be assigned to clinical care and therefore will not be able to complete the course.

Drug Testing Notification

Cooperating with the drug testing policies of any work experience, clinical, or cooperative teaching site is a condition for continued enrollment in the course and or related academic program. A student may be required to comply with the non-LBCC instructional site's drug test policy. Testing may be random and unannounced or conducted when a reasonable belief that work-behavior may be the result of the presence of a drug. The presence, as determined by the program's test procedures, or prescription or non-prescription drugs, controlled substances, or cannabis, for other than legal and legitimate uses, may result in immediate dismissal from the work site and disenrollment from the course and/or related academic program, if the course is a requirement for program completion. The student may be subject to appropriate disciplinary action for program completion. The student may be subject to appropriate disciplinary action for violating the Standards of Conduct as outlined in the Students Rights and Responsibilities document. This document is available at: *www.linnbenton.edu/go/studentrights/*

Program Completion

Upon successful completion of the program, you will be awarded a certificate of completion. You may become certified through the Oregon State Board of Nursing (OSBN) by successfully completing the Nurse Aide Competency Evaluation (NACE) and applying for certification with the OSBN.

CAREER AND TECHNICAL

Nursing Assistant

Prerequisites for this program include a reading test, measles immunization, a negative tuberculosis screen and a criminal background check.

Course No.	Course Title	Credits
NU 5.406	Nursing Assistant	9
	Total Credits Required:	**9**

Occupational Skills Training

See Skills Training.

Office Specialist

Program Contact:
Rosemarie Hubley, Twila Lehman, Nancy Noe

Additional Faculty:
Mary Ann Lammers, Sally Stouder

Job opportunities are excellent for well-trained office specialists. Opportunities for advancement are available with experience and proven aptitude. Generally, the work is in pleasant surroundings with regular daytime hours. The Office Specialist program provides students the opportunity to acquire skills for entry-level positions such as general clerk, file clerk, receptionist, typist, transcriptionist, data entry clerk and word processor.

LBCC offers two certificates for office specialists: a one-year Office Specialist Certificate and a one-term Office Technology Skills Certificate. The short-term program focuses on specific skills for entry-level office support jobs, and the one-year program provides the opportunity to acquire adequate skills for positions that require additional or more advanced skills.

Office specialists perform a variety of duties that vary with the employer and with the individual's level of training and experience. Duties may include filing, typing, operating various office machines, writing letters, answering telephones, and scheduling appointments. More experienced office specialists might keep financial records, prepare budgets, and supervise other employees.

Individuals who want to become office specialists should have the ability to get along well with many different people. Successful office support staff must be reliable and must enjoy detail work. In addition to general office skills, they must develop a good working knowledge of computer hardware and software; mathematics; proper maintenance of business records; customer service; communication skills; and grammar, spelling and proper use of the English language.

Student Learning Outcomes

Students who successfully complete the One-year Certificate in Office Specialist will:

- Function effectively as a team member.
- Interact effectively in oral and written communications.
- Use computers and other technology proficiently for support staff tasks.
- Demonstrate positive interpersonal interactions and diplomacy.
- Manage multi-tasks efficiently.
- Model professional and ethical behaviors.
- Participate in ongoing professional development.
- Solve problems using a variety of appropriate tools.
- Demonstrate proficiency in content areas.

Program Requirements

The Office Specialist program is designed to be completed in one year, assuming that the entering student already knows how to type by touch and has placed at or above the following levels on the Placement Test: WR 115 Introduction to College Writing and MTH 060 Introduction to Algebra. It is advisable to take the Computerized Placement Test as early as possible; if developmental course work is required, it should be taken the summer term prior to enrolling in the regular degree program. Pre-training might include some or all of the following: OA 121 Keyboarding (2 credits), RD 080 Developing Reading Skills or RD 090 Strategies for Effective Reading (3 credits), WR 090 The Write Course (4 credits), MTH 020 Basic Mathematics (4 credits). Students should work with an advisor to interpret the test scores and get help in planning their program.

The Office Technology Skills Certificate is a 16-credit certificate that focuses on specific skills for entry-level office support jobs. It is ideal for students who need to update their office skills for employment as an office support person in today's high technology environment. The required courses can all be applied towards the one-year Office Specialist Certificate and the two-year Associate of Applied Science Administrative Professional degree. This certificate is designed to be completed in one to two terms. This assumes that students can type by touch at a minimum of 30 wpm and have been placed at or above WR 115 Introduction to College Writing and MTH 060 Introduction to Algebra.

Facilities

Skills classes are taught in self-paced office laboratory classrooms. New technology is introduced both through concepts courses and through hands-on experience with computers.

CAREER AND TECHNICAL

One-Year Certificate in Office Specialist

Course No.	Course Title	Credits
Fall Term		
CIS 125O	Introduction to Windows	1
OA 2.500	Business Orientation	1
OA 2.513	Numeric Keyboarding: Speed & Accuracy	1
OA 2.515	Business Math	2
OA 2.588	Editing Skills for Information Processing	3
OA 2.652	Filing	1
OA 122	Formatting	2
OA 123A	Typing Skillbuilding	2
OA 123B	Advanced Typing Skillbuilding	2
Winter Term		
CIS 125D	Introduction to Databases	1
CIS 125P	Introduction to Presentations	1
CIS 125S	Introduction to Spreadsheets	1
OA 2.527	Applied Document Processing	3
OA 2.683	Computerized Records Management	3
OA 202	Word Processing for Business: MS Word	3
	Electives (Select from list below)	4-6
Spring Term		
OA 2.551	Communications in Business	4
OA 2.579	Integrated Software Applications	3
OA 2.616	Job Success Skills[1]	1
OA 2.645	Administrative Procedures I	4
OA 203	Advanced Word Processing	3
Choose at least 2 electives from the following list:		
BA 2.530	Practical Accounting I	4
BA 101	Introduction to Business	4
OA 2.505	Voice Recognition	2
OA 2.682	Desktop Publishing	3
	Total Credits Required:	**46-48**

Office Technology Skills Certificate

Course No.	Course Title	Credits
CIS 125O	Introduction to Windows	1
CIS 125S	Introduction to Spreadsheets	1
OA 2.513	Numeric Keyboarding: Speed and Accuracy	1
OA 2.515	Business Math	2
OA 2.588	Editing Skills for Information Processing	3
OA 2.652	Filing	1
OA 122	Formatting	2
OA 123A	Typing Skillbuilding	2
OA 202	Word Processing for Business: MS Word	3
	Total Credits Required:	**16**

Office Technology

See Office Specialist.

Parenting Education

Family Resources and Education's Parenting Education Department promotes the development of knowledge and skills for strong families through classes, workshops and home visits. Programs are offered throughout Linn and Benton counties and serve parents and other primary caregivers and professionals working with parents. For more information, see the Family Resources and Education section in the front of this catalog.

1– Courses offered that term only.

Philosophy

See Social Science.

Photography

Program Contact:
Gary Westford

The Photography program at LBCC offers a series of foundation courses for students interested in transferring to a four-year college or university. It includes courses in the fundamentals of photography as well as lab classes in black and white, digital, documentary, color and alternative processes.

Students can specialize in photography under either one of LBCC's two transfer degrees: the Associate of Arts (Oregon Transfer) degree or the Associate of Science Degree. Students who plan to transfer to Oregon State University to pursue a photography degree in OSU's Department of Art are advised to take the Associate of Science degree with an emphasis in Art at LBCC and follow the Photography Concentration (see details under "Art"). Students planning to transfer to the University of Oregon or other four-year college in the state are advised to take the Associate of Arts (Oregon Transfer) Degree and to follow the recommended course curriculum outlined below. Both degree programs are designed to help students study photography as a medium of expression rather than as a commercial enterprise.

Student Learning Outcomes:

Students in this program will demonstrate:

- an understanding and appreciation of the role and significance of photography in the history and development of Western art.
- technical and aesthetic competence in the creation of imagery in black-and-white, digital, and color media.
- technical and aesthetic competence in at least two specialized forms of photography, including documentary, digital imaging, alternative processes, and/or fine art gelatin silver printing.

Program Requirements

The Photography program welcomes students of all skill levels to its introductory course (ART 261). However, space is limited in the subsequent lab classes and they are open only to students who have completed the introductory course with a grade of B or better. Qualifying students will be admitted to the lab classes on a first-come, first-served basis; consequently, students may have to wait until their sophomore year to gain admittance to some classes. Expenses for supplies will vary depending on the specific course, but can be $100 or more.

Facilities

The department supports its photography classes with both traditional wet darkrooms and digital imaging studios. A limited number of cameras and other equipment are available for short-term checkout from the lab by students enrolled in photo classes; however, students who advance beyond the introductory course should expect to have their own cameras. Access to the photo lab is restricted to currently enrolled photography and journalism students who have completed an orientation in lab procedures and safety.

OREGON TRANSFER

Associate of Arts with an emphasis in Photography

See Appendix B for graduation requirements for the Associate of Arts (Oregon Transfer) degree. Many courses meet the requirements for this degree. See an advisor for the courses required by the institution to which you plan to transfer.

General Education & Distribution Requirements 61

Students are advised to take the following courses to meet their Arts & Letters Distribution requirements:

ART 261	Introduction to Photography (3 credits)
ART 264	Intermediate Black & White Photography (3 credits)
ART 266	Photography: Art &Technique (3 credits)
JN 134	Introduction to Photojournalism (3 credits)

Additional Elective Courses 29

The following courses are recommended, although other courses may be substituted based on student's interest:

ART 263	Digital Photography (3 credits)
ART 280	Cooperative Work Experience (3 credits)
ART 204	History of Western Art (3 credits)
ART 205	History of Western Art (3 credits)
ART 206	History of Western Art (3 credits)
ART 115	Basic Design I: Composition (4 credits)
ART 116	Basic Design II: Color (4 credits)
JN 201	Media & Society (4 credits)

Total Credits Required: 90

Physical Sciences

Program Contact:
Bridgid Backus

Additional Faculty:
Marci Bailey, Deron Carter, Toni King, Greg Mulder

The Physical Sciences Department offers career and technical and transfer courses in astronomy, chemistry, geology, general sciences and physics. Most courses have laboratory sessions accompanying the lectures. Laboratory sessions are designed to provide students with hands-on experience with science and scientific methods.

The Physical Sciences Department also teaches several non-laboratory courses that fulfill the Science, Technology and Society requirement for the Associate of Applied Science degree.

Three degrees are offered—one with an emphasis in chemistry, one with an emphasis in physics, and one with an emphasis in general science. These degree programs provide a strong background in mathematics and physical sciences to students planning to transfer to a four-year institution to complete a baccalaureate degree in chemistry, physics or general science. The general science degree is appropriate for students interested in geology, oceanography, atmospheric sciences, pre-professional programs in the health sciences or pre-education. Students entering the chemistry or physics programs with a strong high school mathematics and science background can expect to complete either of these programs in two years. Students who must take pre-calculus mathematics courses should expect to spend more than two years completing the chemistry or physics programs.

Student Learning Outcomes

Students who successfully complete the Associate of Science degree with an emphasis in Chemistry will:

- Understand and explain chemical phenomena using important concepts, methods, and equipment of chemistry, physics and mathematics;

- Confidently and effectively communicate scientific ideas in oral, written, graphical, and pictorial form;
- Apply chemical principles using the appropriate vocabulary in problem solving, recognizing chemical compounds and their properties, understanding chemical reactions and their consequences;
- Read, interpret, and safely perform laboratory procedures using the appropriate techniques and instrumentation;
- Collect and analyze laboratory data, arrive at reasonable conclusions, and write comprehensive laboratory reports;
- Think critically and creatively about the chemical environment and its complexity, and apply their knowledge to their daily lives;
- Participate as an effective member of a team.

Students who successfully complete the Associate of Science degree with an emphasis in Physics will be able to:

- Confidently and competently communicate scientific ideas in oral and written form using appropriate technical vocabulary;
- Participate successfully as an effective member of a team;
- Think critically and creatively about the physical environment and its complexity, and apply knowledge gained in the program to their daily lives;
- Use a variety of appropriate representations (verbal, pictorial, graphical, and mathematical) to understand and explain physics concepts and to solve physics problems;
- Create, read, interpret, and safely perform laboratory procedures using the appropriate techniques and equipment designed to collect laboratory data, analyze that data, and draw and support reasonable conclusions from that data.

Students who successfully complete the Associate of Science degree with an emphasis in General Science will be able to:

- Understand and explain scientific phenomena using important concepts, methods, and equipment of chemistry, physics and mathematics.
- Confidently and effectively communicate scientific ideas in oral written, graphical and pictorial form.
- Apply physical principles, using the appropriate vocabulary, in problem solving situations involving physical properties such as force, mass, energy, momentum and change.
- Apply chemical principles using the appropriate vocabulary in problem solving, recognizing chemical compounds and their properties, understanding chemical reactions and their consequences.
- Read, interpret, and safely perform laboratory procedures using the appropriate techniques and instrumentation.
- Collect and analyze laboratory data, arrive at reasonable conclusions, and write comprehensive laboratory reports.
- Think critically and creatively about the physical environment and its complexity, and apply their knowledge to their daily lives.

7– Course may be taken any term to accommodate a student's particular interests and scheduling considerations. See the requirements for the Associate of Science degree for approved courses.

TRANSFER

Associate of Science with an emphasis in Chemistry

See Appendix C for graduation requirements for the Associate of Science degree. Classes shown below in italic are general education classes.

General Education Requirements **43**

Program Requirements **48**

Course No.	Course Title	Credits
Fall Term - First Year		
CH 221	*General Chemistry* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
MTH 251	*Differential Calculus* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
PE 231	*Lifetime Health & Fitness*	*3*
WR 121	*English Composition*	*3*
Winter Term		
CH 222	*General Chemistry* (Four credits apply toward general education requirements; one credit applies toward program.)	*4(1)*
MTH 252	Integral Calculus	5
WR 227	*Technical Writing*	*3*
	Social Processes & Institutions[7]	*3*
Spring Term		
CH 223	General Chemistry	5
	Biological Science[7]	*4*
MTH 253	Calculus	4
SP 111	*Fundamentals of Speech or*	
SP 112	*Introduction to Persuasion*[7]	*3*
Fall Term - Second Year		
CH 241	Organic Chemistry	4
MTH 254	Calculus	4
PH 211	General Physics with Calculus	5
	Literature & the Arts[7]	*3*
Winter Term		
CH 242	Organic Chemistry	4
PH 212	General Physics with Calculus	5
	Cultural Diversity[7]	*3*
	Western Culture[7]	*3*
Spring Term		
CH 243	Organic Chemistry	4
PH 213	General Physics with Calculus	5
	Difference, Power & Discrimination	*3*
	Total Credits Required:	**91**

TRANSFER

Associate of Science with an emphasis in Physics

See Appendix C for graduation requirements for the Associate of Science degree. Classes shown below in italic are general education classes.

General Education Requirements **43**

Program Requirements **47**

Course No.	Course Title	Credits
Fall Term - First Year		
CH 221	*General Chemistry* (Four credits apply toward general education requirements; one credit applies toward program.)	*(4)1*
MTH 251	*Differential Calculus* (Four credits apply toward general education requirements; one credit applies toward program.)	*(4)1*

PE 231	*Lifetime Health & Fitness*	*3*
WR 121	*English Composition*	*3*
Winter Term		
CH 222	*General Chemistry*	*4(1)*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
MTH 252	Integral Calculus	5
	Social Processes & Institutions[7]	*3*
WR 227	*Technical Writing*	*3*
Spring Term		
	Biological Science[7]	*4*
CH 223	General Chemistry	5
MTH 253	Calculus	4
SP 111	*Fundamentals of Speech*[7] *or*	
SP 112	*Introduction to Persuasion*[7]	*3*
Fall Term - Second Year		
	Literature & the Arts[7]	*3*
MTH 254	Calculus	4
PH 211	General Physics with Calculus	5
	Western Culture[7]	*3*
Winter Term		
	Cultural Diversity[7]	*3*
	Difference, Power & Discrimination[7]	*3*
MTH 255	Vector Calculus	4
PH 212	General Physics with Calculus	5
Spring Term		
MTH 256	Applied Differential Equations	4
PH 213	General Physics with Calculus	5
Additional elective courses (see program advisor to select courses)		*3*
	Total Credits Required:	**90**

TRANSFER

Associate of Science with an emphasis in General Science

See Appendix C for graduation requirements for the Associate of Science degree. Classes shown below in italic are general education classes.

General Education Requirements		**43**
Program Requirements		**51-53**
Fall Term - First Year		
BI 101	*General Biology or*	
BI 211	*Principles of Biology*	*4*
CH 121	*College Chemistry or*	
CH 221	*General Chemistry*	*(4)1*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
MTH 111	*College Algebra*	*(4)1*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
WR 121	*English Composition*[7]	*3*
Winter Term		
BI 102	General Biology or	
BI 212	Principles of Biology	4
CH 122	*College Chemistry or*	
CH 222	*General Chemistry*	*(4)1*
	(Four credits apply toward general education requirements; one credit applies toward program.)	
MTH 112	Trigonometry (5 credits) or	
MTH 241	Calculus for Biological/Management/Social Science (4 credits)	4-5
PE 231	*Lifetime Health & Fitness*[7]	*3*
Spring Term		
BI 103	General Biology or	
BI 213	Principles of Biology	4
CH 123	College Chemistry or	
CH 223	General Chemistry	5
MTH 251	Differential Calculus (5 credits) or	
MTH 245	Math for Biological/Management/Social Science (4 credits)	4-5
SP 111	*Fundamentals of Speech*[7] *or*	
SP 112	*Introduction to Persuasion*[7]	*3*
Fall Term - Second Year		
G 101	Introduction to Geology	4
PH 201	General Physics	5
WR 227	*Technical Writing*[7]	*3*
	Literature & the Arts Requirement[7]	*3*
Winter Term		
G 102	Introduction to Geology	4
PH 202	General Physics	5
	Social Processes & Institutions Requirement[7]	*3*
	Western Culture Requirement[7]	*3*
Spring Term		
G 103	Introduction to Geology	4
PH 203	General Physics	5
	Cultural Diversity Requirement[7]	*3*
	Difference, Power & Discrimination Requirement[7]	*3*
	Total Credits Required:	**94-96**

Physics

See Physical Sciences.

Pre-Restaurant Management

Program Contact:
Scott Anselm

Additional Faculty:
John Jarschke

The Pre-Restaurant Management degree is offered in cooperation with Oregon State University and is tailored to the individual seeking a baccalaureate degree in Restaurant and Food Service Management with a strong Culinary Arts component. Through a unique articulation agreement students may transition seamlessly to OSU to complete the final two years of a baccalaureate program. A thorough introduction to culinary arts, coupled with a strong business core, prepares students for a variety of careers in the hospitality/restaurant industry.

Students must be 18 years old and have a high school diploma or GED certificate. They should have a strong understanding of business math, good communication skills, and a desire to work directly with customers and staff. In addition, they must be able to work under pressure; demonstrate manual dexterity, physical stamina, concentration, and a good memory; and have a cheerful, friendly, outgoing personality. Besides the regular college costs, students spend about $500 to purchase uniforms, knives, books, shoes and other equipment. Students should wait until after the first day of class to purchase these items.

Students become skilled at working with virtually all types of standard kitchen equipment and tools. In this excellent hands-on learning environment, students learn to care for and maintain a full-service kitchen.

After a strong foundation in culinary skills gained the first year, students will concentrate on business and management skills to prepare for the completion of their bachelor's degree at OSU.

TRANSFER

Associate of Science with an emphasis in Pre-Restaurant Management

See Appendix C for graduation requirements for the Associate of Science degree. Classes shown below in italic are general education classes.

General Education Requirements: **43**

Program Requirements: **58-62**

Course No.	Course Title	Credits
Fall Term - First Year		
CA 101	Culinary Arts Practicum I	7
CA 111	Food Service Safety & Sanitation	1
CA 112	Station, Tools & Culinary Techniques	3
CA 113	Service Techniques	1
WR 121	*English Composition*	*3*
Winter Term		
CA 102	Culinary Arts Practicum II	8
BI 234	*Microbiology (4 credits, LBCC) or*	
MB 230	*Introductory Microbiology (4 credits, OSU) or*	
MB 302 & 303	*General Microbiology & Lab (5 credits, OSU)* (Four credits apply toward general education requirements; one credit applies toward program.)	*4-5*
NFM 225	Nutrition	4
Spring Term		
CA 103	Culinary Arts Practicum III	8
SP 111	*Fundamentals of Speech or*	
SP 218	*Interpersonal Communication*	*3*
PSY 202	*General Psychology*	*3*
	Writing/Composition	*3*
Fall Term - Second Year		
BA 211	Principles of Accounting: Financial	4
BA 213	Principles of Accounting: Managerial	4
EC 201	Introduction to Microeconomics	4
MTH 243	*Introduction to Statistics (4 credits, LBCC) or*	
	Math Course approved for bac. core (4 credits) and	
ST 201	Principles of Statistics (3 credits, OSU) or	
ST 351	Introduction to Statistical Methods (4 credits, OSU)	4-7
	Physical/Biological Science	*4*
Winter Term		
CH 121	*College Chemistry* (Four credits apply toward general education requirements; one credit applies toward program.)	*(4)1*
EC 202	Introduction to Macroeconomics	4
PE 231	*Lifetime Health & Fitness*	*3*
	Cultural Diversity	*3*
	Literature and the Arts	*3*
Spring Term		
BA 226	Business Law	3
CA 201	Culinary Arts Career Planning (LBCC) or	
NFM 104	Orientation (OSU)	1
FST 251	Wine, Beer & Spirits (OSU)	3
NFM 219	Promoting Food & Nutrition (OSU)	2
	Difference, Power & Discrimination	*3*
	Western Culture	*3*

Total Credits Required: 101-105

Political Science

See Social Science.

Psychology

See Social Science.

Refrigeration, Heating, Ventilation and Air Conditioning

Program Contact:
Denis Green

The Refrigeration, Heating, Ventilating, and Air Conditioning program offers a one-year certificate that prepares graduates for a wide range of RHVAC occupations. RHVAC technicians install, maintain, and troubleshoot climate control systems and production-related heating, ventilation and cooling systems. They work in residential service and repair, office and facilities maintenance and repair, and in industrial or production plants.

Students in the program learn the most important RHVAC troubleshooting, maintenance and repair skills. The course is demanding but, with these skills, students can find work in a wide variety of RHVAC occupations. The program is competency based, with the largest portion of students' grades being determined through hands-on tests.

Individuals working in this occupation should have good mechanical skills and a willingness to continue learning after graduation. Personal qualities include patience, customer service skills, and good interpersonal communication skills. Successful RHVAC technicians are also self-starters. A "can do" attitude is essential because this type of work requires working both as an individual and as part of a team. Because of a variety of working conditions, students generally should be able to stand, stoop, kneel, bend and lift moderate weights.

The RHVAC faculty at LBCC work to help you succeed, both in school and on the job. You will learn useful skills, and you will learn them quickly.

Student Learning Outcomes

Students who successfully complete a one-year certificate in Refrigeration, Heating, Ventilation and Air Conditioning will:

- Work in an ethical manner.
- Comply with and follow all environmental regulations and practices.
- Communicate effectively with customers, supervisors, and fellow workers.
- Work to a high level of craftsmanship.
- Use mathematical, chemical and physics concepts when completing RHVAC tasks.
- Troubleshoot and repair common RHVAC, electrical and mechanical problems.
- Work so as to ensure personal safety and the safety of the general public.

Program Requirements

The program is competency-based with an emphasis on hands-on, skills-based labs that use real-world equipment. RHVAC technicians must be able to read and follow manufacturers' specifications and keep records of the repairs and replacements they make.

Individuals who choose this career will need good reading skills and good customer skills. Students completing the program may, with help from the RHVAC instructor, design a series of courses that can lead to an Associate of General Studies Degree, a two-year degree. Most RHVAC classes are scheduled in the morning, although night courses and other part-time courses are offered also. Students can enter the program fall term and winter term. Experienced people might enter spring term. Students must purchase tools and specialized equipment in addition to textbooks, for a total cost between $500 and $1,000.

Students should have a reading level of RD 090 Strategies for Effective Reading before entering the program. Please be advised, RHVAC employ-

ers screen for drug use and conduct background checks of driving records. Students should meet with or at least contact the program advisors for clarification of these or other concerns and employment opportunities.

CAREER AND TECHNICAL

One-Year Certificate in Refrigeration, Heating, Ventilation and Air Conditioning

Course No.	Course Title	Credits
Fall Term		
RH 3.580	RHVAC Brazing & Fitting[1]	2
RH 3.581	Recovery & Charging[1]	2
RH 3.584	Refrigeration Troubleshooting[1]	4
RH 3.585	Heating Systems[1]	2
RH 3.595	Licensing[1]	2
Winter Term		
RH 3.552	Electrical Systems Troubleshooting[1]	2
RH 3.553	Electrical Problems[1]	4
RH 3.587	Troubleshooting Motors[1]	2
RH 3.588	Motor Control Troubleshooting[1]	2
RH 3.590	Control Circuit Troubleshooting[1]	2
Spring Term		
RH 3.586	Sheet Metal[1]	2
RH 3.596	Mechanical Systems[1]	2
RH 3.597	PM & Troubleshooting[1]	2
RH 3.602	HVAC System Controls[1]	4
RH 3.618	RHVAC Systems Review[1]	2
Other required courses:		
Math	Choose course based on Placement Test score and meeting with advisor	4
Writing	Choose course based on Placement Test score and meeting with advisor	3
Computer	Choose computer course with help from advisor	2
	Total Credits Required	**45**

RHVAC students planning to complete the Associate of General Studies should consider courses in welding, hydraulics, programmable logic controls, first aid and CPR, process controls, computer operation, boiler operation and business management in collaboration with the program advisor.

Religion

See Social Science.

Restaurant and Catering Management

See Pre-Restaurant Management.

Skills Training

Program Contact:
Sherry Rosen

LBCC offers two skills training certificates: Employment Skills Training and Occupational Skills Training. Both certificates provide the opportunity for students to receive instruction in a specific occupational area. The programs are individualized and allow flexibility in program implementation. Individualized training plans are developed in consultation with the student, LBCC faculty, LBCC program advisor, work-site trainer and agency representative, if appropriate. The programs utilize community employers to train students for new careers when appropriate.

Program Requirements

The Employment Skills Training program consists of 12–44 credits, depending on the student's skill set, prior work experience and employment needs. This program is designed for students who need classroom instruction and may need hands-on, work-based training to upgrade current skills. In addition to classroom instruction, each student has the choice to participate in a supervised and structured work-based training.

The Occupational Skills Training Certificate requires a minimum of 45 credits. In addition to classroom instruction, students in this program are required to participate in supervised and structured work-based training. Qualified students are eligible to receive federal financial aid. While participating in the structured work-based training, students will maintain weekly activity logs, quarterly evaluations and quarterly curriculum reviews.

Before beginning the Employment Skills Training Certificate or the Occupational Skills Training Certificate, students must receive written approval from a faculty advisor.

Course Learning Outcomes:

Students who successfully complete Occupational Skills Training will:

- Obtain practical experience working in their field.
- Apply classroom skills, concepts and theory to workplace situations.
- Understand and follow industry regulations and safe practices.
- Communicate effectively with supervisor and co-workers.
- Interact effectively in oral and written communication.
- Demonstrate technical knowledge through use of state-of-the-art equipment.
- Demonstrate an understanding of workplace culture.
- Demonstrate an understanding of the professional ethics of their field.
- Successfully compete in the job market for a position in their field.

CAREER AND TECHNICAL

Occupational Skills Training Certificate

A minimum of 45 credits is required for this certificate. Contact your advisor for course selection assistance.

Course No.	Course Title	Credits
MTH 060	Introduction to Algebra	4
OST 280	Occupational Skills Training	20-26
SP 100	Introduction to Speech Communication	3
WR 115	Introduction to College Writing	3
	Occupational Specific Courses	9-15
	Total Credits Required:	**45**

CAREER AND TECHNICAL

Employment Skills Training Certificate

Requirements in math, reading and writing are not included in the 12–44 required credits for this certificate. Students will be required to take math, reading and writing courses or demonstrate competency by Computerized Placement Test scores. Contact your advisor for course selection assistance.

Course No.	Course Title	Credits
MTH 020	Basic Mathematics	4
RD 080	Developing Reading Skills	3
WR 090	The Write Course	4
	Occupational Specific Courses	12-44
	Total Credits Required:	**12-44**

1– Courses offered that term only.

Social Science

Program Contact:
Darci Dance

Additional Faculty:
Arfa Aflatooni *(Sociology)*; Robert Harrison *(History)*; Greg Jones *(Psychology)*

Social science deals with all aspects of the individual and group life of men and women. The social sciences include a variety of specialized ways of looking at the world: anthropologists study the evolution of human beings and their ways of life; historians seek to understand the present by analyzing the complexities of the past; political scientists explore the nature of government and the uses of power; psychologists are concerned with individual behavior and development; philosophers probe issues of truth, goodness and beauty; religionists examine how faith has expressed itself among groups and individuals; while sociologists consider group behavior and the structure of society.

Social science provides a valuable background for people interested in social and civil services, law, education, journalism, government and business and for those pursuing undergraduate and graduate degrees in the humanities and the specialized fields of the social sciences.

Because all aspects of human culture are related and interdependent, the Social Science curriculum provides students with a broad, integrated picture of the nature of human society and the major forces operating within it. The Social Science Department supports the Associate of Science degree with an emphasis in social science. If you are thinking of majoring in one of the social sciences when you transfer, select one of these options:

- ***Behavioral Studies Option***–Transfer students planning to major in psychology, sociology, political science or philosophy/religion should consider this option. Behavioral studies deal chiefly with the mind and personality of the individual, the relationship between men's and women's biological traits and their socially acquired characteristics, and the social interaction of individuals with one another and with groups.
- ***American Studies Option***–Transfer students planning to major in anthropology, history, political science, pre-law or sociology should consider this option. American studies deal with the culture, the development and the character of the United States and the Western Hemisphere, as well as contemporary social, economic and political problems and possibilities.
- ***International/Intercultural Studies Option***–Transfer students planning to major in anthropology, history, philosophy/religion, or political science should consider this option. International/intercultural studies deal chiefly with the study of ourselves as part of a larger world consisting of a variety of culture and social systems that profoundly shape the nature of cooperation and conflict on the planet.

Peace Studies

The Social Science Department is the home of the co-curricular Peace Studies Program that offers interested students the opportunity to build awareness of nonviolent approaches to conflict resolution on the interpersonal, intergroup, and international levels. On even-numbered years, 8–10 LBCC students participate in the International Symposium on Peace, Justice and Human Rights, which is held in either Great Britain, Norway, the Netherlands, Germany, Poland, Hungary, Lithuania, Israel or the United States. The symposium brings together students and teachers from a number of countries to experience intercultural communication, to learn about intercultural and international conflict, and to explore strategies for peaceful resolution of conflicts. For further information, contact program advisor Doug Clark at (541) 917-4557.

Student Learning Outcomes

Students who successfully complete an Associate of Science degree with an emphasis in Social Science will:

- Critically analyze the role of the individual in society.
- Critically analyze the interaction of individuals within social groups.
- Critically analyze the workings of human institutions in society.
- Critically analyze relationships between humans and the natural world.

TRANSFER

Associate of Science with an emphasis in Social Science

See Appendix C for the graduation requirements for the Associate of Science degree.

General Education Requirements **43**

Program Requirements **47**

Liberal Arts Core Requirements 15
For a list of Liberal Arts Core Requirements, see Appendix D.

Complete a minimum of six classes from one of the following options, including at least three classes with the same prefix. Also complete two classes from each of the other two options. Additional classes from any option to total 90 credits. Note: No credits may be used for more than one requirement.

Course No.	Course Title	Credits
Behavioral Studies Option		
PHL 201	Introduction to Philosophy	3
PS 104	Problems in American Politics	3
PS 200	Introduction to Politics	3
PSY 101	Psychology & Human Relations	3
PSY 201	General Psychology	3
PSY 202	General Psychology	3
PSY 203	General Psychology	3
PSY 215	Introduction to Developmental Psychology	3
PSY 219	Abnormal Psychology	3
PSY 231	Human Sexuality	3
SOC 204	General Sociology	3
SOC 205	General Sociology	3
SOC 206	General Sociology	3
SOC 211	Sociology of Deviance & Social Control	3
SOC 222	Marriage Relations	3
American Studies Option		
ANTH 232	Native North Americans	3
HST 201	United States History: Colonial & Revolutionary	3
HST 202	United States History: Civil War & Reconstruction	3
HST 203	United States History: Rise to World Power	3
PS 104	Problems in American Politics	3
PS 201	Introduction to American Politics & Government	3
PS 203	State & Local Government	3
PS 220	U.S. Foreign Policy	3
PS 252	Constitutional Law	3
SOC 206	General Sociology	3
International/Intercultural Studies Option		
ANTH 103	Introduction to Cultural Anthropology	3
ANTH 210	Comparative Cultures	3
ANTH 230	Time Travelers	3
HST 101	History of Western Civilization	3
HST 102	History of Western Civilization	3
HST 103	History of Western Civilization	3
HST 157	History of the Middle East & Africa	3

HST 158	History of Latin America	3
HST 159	History of Asia	3
HST 240	War & the Modern World	3
PHL 201	Introduction to Philosophy	3
PHL 202	Elementary Ethics	3
PHL 215	History of Western Philosophy	3
PS 200	Introduction to Politics	3
PS 204	Introduction to Comparative Politics	3
PS 205	Introduction to International Relations	3
PS 211	Peace & Conflict	3
PS 220	U.S. Foreign Policy	3
R 102	Religions of the Western World	3
R 103	Religions of the Eastern World	3
	Total Credits Required:	**90**

Sociology

See Social Science.

Spanish

Program Contact:
Margarita Casas

The Foreign Language Department offers courses in Spanish that encourage students to speak, listen, write and read in Spanish. These transfer courses are proficiency oriented, and they emphasize cultural and social aspects of the target language. See "Foreign Language" for Associate of Science degree program requirements.

Speech Communication

Program Contacts:
Dana Emerson, Mike Houglum, Sally Moore

The Performing Arts Department offers a broad perspective background that supports institutional general education degree requirements in communication as well as offering opportunities for students interested in pursuing fields of study in communication, media and public relations. The department offers the Associate of Science degree with an emphasis in Speech Communication.

Student Learning Outcomes

Students who successfully complete the Associate of Science degree with an emphasis in Speech Communication will:

- Recognize how communication affects self, others, and society.
- Synthesize and organize information for varied audiences.
- Interact with confidence while adapting messages to audience needs.
- Listen critically.

Program Requirements

Students planning to transfer as communication majors to a four-year institution are encouraged to take all the speech courses LBCC offers, as well as elective credits in complementary, career-related courses. Students should consult with their faculty advisors on course selection.

TRANSFER

Associate of Science with an emphasis in Speech Communication

See Appendix C for graduation requirements for the Associate of Science degree. Note: No credits may be used for more than one requirement.

General Education Requirements		**43**
Program Requirements		**47**
	Liberal Arts Core Requirements:	15
	For a list of Liberal Arts Core Requirements, please refer to Appendix D.	

For Speech Communication Emphasis

Course No.	Course Title	Credits
	Select 6 credits. (Cannot use the same course that is used to fulfill the general education requirement.)	*6*
SP 111	Fundamentals of Speech (3 credits)	
SP 112	Introduction to Persuasion (3 credits)	
SP 218	Interpersonal Communication (3 credits)	
JN 201	Media & Society	4
PS 201	Introduction to American Politics & Government or	
PS 203	State & Local Government or	
PS 205	Introduction to International Relations	3
SP 219	Small Group Communication	3
TA 248	Fundamentals of Acting I or	
TA 144/145/146	Improvisation	3
	Work with your faculty advisor to choose 13 elective credits of career-related courses	*13*
	Total Credits Required:	**90**

Technical Communications

See English.

Theater

Program Contacts:
Bruce Peterson

The Theater program at LBCC offers a variety of academic and performance opportunities, including the Associate of Science degree with an emphasis in Theater. Introduction to Theater (TA 147) satisfies general education requirements in the arts; performance courses in acting and improvisation are intended for students seeking performance and communication skills. A specialized drama course, Creative Drama for Teachers (TA 246), helps prepare students who are entering teacher training programs in elementary education.

Through the Degree partnership program with Oregon State University, LBCC's theater program has close ties with OSU's drama department. Theater students from both schools have more performance and technical theater opportunities with greater access to a variety of performance venues and theater faculty. Students who participate in theater productions at LBCC or OSU can earn transfer credit at either school.

Student Learning Outcomes

Students who successfully complete the Associate of Science degree with an emphasis in Theater will:

- Demonstrate basic performance and production skills.
- Analyze dramatic literature.
- Show a cultural and artistic appreciation of the theater.

Program Requirements

Theater classes are open to all students and require no prior experience. The plays produced each year are also open to all students through an audition process and students are encouraged to become involved either as performers or technicians. Academic credit can be offered for participation. A limited number of half-tuition grants are available for students who participate in LBCC main stage productions.

Facilities

The theater program produces its plays in the Russell Tripp Performance Center on the LBCC main campus which is a fully equipped proscenium theater.

TRANSFER

Associate of Science with an emphasis in Theater

See Appendix C for graduation requirements for the Associate of Science degree. Note: No credits may be used for more than one requirement.

General Education Requirements **43**

Program Requirements **47**

Liberal Arts Core Requirements 15

For a list of Liberal Arts Core Requirements, please refer to Appendix D.

For Theater Emphasis

Course No.	Course Title	Credits
TA 248	Fundamentals of Acting I	3
TA 144	Improvisation	3
TA 145	Improvisation	3
TA 250	Workshop: Theater Arts (May be repeated for up to 3 credits)	3

In addition, choose 6 credits from:

TA 146	Improvisation (3 credits)	
TA 180	Rehearsal & Performance (3 credits)	

Also select 14 elective credits from course offerings with SP, TA, MUS or MP prefixes *14*

Total Credits Required: **90**

Water/Wastewater Technology

Program Contact:
Ron Sharman

Additional Faculty:
Holly DeRamus, David Kidd, Kevin Krefft

Water treatment facilities treat water to make safe drinking water for the public. Water treatment plant operators have the responsibility for operation and maintenance of the water treatment plant and water distribution system. Wastewater treatment facilities remove pollutants from wastewater to make it safe to discharge into the environment. Wastewater treatment plant operators have the responsibility for operation and maintenance of the wastewater treatment plant and the wastewater collections system.

Water and wastewater treatment plant operators control both biological and chemical plant operations, monitor and maintain equipment, perform laboratory tests and prepare reports for regulatory agencies. Treatment plant operators must have a working knowledge of plant operations, treatment equipment, chemistry, microbiology, mathematics and computer applications.

LBCC's Water and Wastewater Technology offers two programs: a one-year certificate program in Water/Wastewater Plant Operations and a two-year Associate of Applied Science degree in Water/Wastewater Technology. Both programs cover all phases of water sources and treatment, water distribution, wastewater collection, wastewater treatment, and industrial applications, and both prepare graduates for employment as water or wastewater treatment plant operators.

Students with one-year certificates can find good jobs as entry-level water and wastewater treatment plant operators. The two-year program, which is more in depth, qualifies graduates for jobs as engineering technicians, representatives for equipment manufacturers, and as operators for industrial treatment systems, giving them more advancement potential and greater mobility.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science in Water/Wastewater Technology will:

- Follow safe practices in the laboratory and in plant operations.
- Apply chemical, microbiological, and mechanical knowledge and skills to maintain proper water and wastewater plant operations.
- Apply math and hydraulics skills in proper water and wastewater plant, collection system, and distribution system operations.
- Understand regulations and operate the plant accordingly.
- Interact effectively in oral and written communications.
- Use computers in water and wastewater plant operation.
- Demonstrate work ethic and model professional interaction with the public.

Program Requirements

Entering students must be prepared to enroll in MTH 060 Introduction to Algebra and WR 115 Introduction to College Writing by fall term of their first year. The two-year (seven-term) Associate of Applied Science in Water/Wastewater Technology prepares its graduates to work at the technician level in water, wastewater and industrial treatment fields. Graduates of the program are qualified to be plant operators, engineering technicians, and technical representatives for various manufacturing concerns. A firm foundation in chemistry, microbiology, computer applications, hydraulics, communication skills, maintenance skills and advanced operations is provided. Associate degree students are required to complete MTH 095 Intermediate Algebra.

The one-year (four-term) certificate program in Water/Wastewater Plant Operations prepares students for entry-level employment as water and wastewater treatment plant operators. A firm background in chemical and microbiological laboratory procedures, maintenance and treatment plant operations is provided. One-year certificate students are required to complete MTH 060 Introduction to Algebra. The one-year certificate curriculum requires enrollment for four consecutive terms. Students completing the one-year program may choose to transfer credits to the two-year Associate of Applied Science degree program.

Students in both the one-year certificate program and the two-year degree program must complete an in-plant practicum during the summer term. Participation in the summer practicum may require relocation of the student for one term. There is no guarantee of funding for students during this period.

Facilities

Classes are held in modern, well-equipped classrooms and laboratories. The Water and Wastewater Technology program offers completely equipped laboratories for chemistry and microbiology, mechanical and electrical maintenance applications. Computer applications are a part of many classroom activities and laboratory applications.

CAREER AND TECHNICAL

Associate of Applied Science in Water/Wastewater Technology

See Appendix C for graduation requirements for the Associate of Science degree.

General Education Requirements **19**
Classes shown below in italic are general education classes.

Program Requirements **82**

Course No.	Course Title	Credits
Fall Term - First Year		
WW 6.190	*Introduction to Environmental Science*[1] (Three credits apply toward general education requirements; three credits apply toward program.)	*(3)3*
WW 6.193	Introduction to Aquatic Chemistry & Microbiology[1]	4
WW 6.199	Introduction to Hydraulics[1]	2
WR 115	Introduction to College Writing	3
Winter Term		
HE 112	*Emergency First Aid*	*1*
WR 121	*English Composition*	*3*
WW 6.192	Wastewater Systems[1]	7
WW 6.194	Basic Aquatic Chemistry & Microbiology[1]	4
Spring Term		
MTH 095	*Intermediate Algebra*	*4*
WW 6.181	W/WW Mechanics[1]	3
WW 6.191	Water Systems Operation[1]	7
WW 6.195	Intermediate Aquatic Chemistry & Microbiology[1]	4
Summer		
WW 6.168	In-Plant Practicum[1]	12
Fall Term - Second Year		
	Activity Course	*1*
WR 227	Technical Writing	3
WW 6.154	Process Control I[1]	4
WW 6.164	Water Sources[1]	3
WW 6.166	Water Purification Systems[1]	4
Winter Term		
	Cultural Diversity & Global Awareness	*3*
WW 6.155	Process Control II[1]	3
WW 6.156	Industrial Electricity	3
WW 6.235	Applied Hydraulics[1]	3
WW 6.171	Industrial Water/Waste Treatment[1]	3
Spring Term		
	Activity Course	*1*
	Speech	*3*
WW 6.165	Water Distribution & Collection Systems[1]	2
WW 6.167	Water Distribution & Collection Lab[1]	1
WW 6.197	Solids Handling[1]	3
WW 6.198	Instrumentation[1]	4
	Total Credits Required:	**101**

CAREER AND TECHNICAL

One-Year Certificate in Water/Wastewater Plant Operations

Course No.	Course Title	Credits
Fall Term		
MTH 060	Introduction to Algebra	4
WW 6.190	Introduction to Environmental Science &Technology[1]	6
WW 6.193	Introduction to Aquatic Chemistry & Microbiology[1]	4
WW 6.199	Introduction to Hydraulics[1]	2
Winter Term		
HE 112	Emergency First Aid	1
WR 115	Introduction to College Writing	3
WW 6.192	Wastewater Systems[1]	7
WW 6.194	Basic Aquatic Chemistry & Microbiology[1]	4
Select 2–3 credits from the computer skills courses below		*2-3*
BA 2.569	First Course in Computers (2 credits)	
CIS 125O	Introduction to Windows (1 credit)	
CIS 125S	Introduction to Spreadsheets (1 credit)	
Spring Term		
WW 6.181	W/WW Mechanics[1]	3
WW 6.191	Water Systems Operation[1]	7
WW 6.195	Intermediate Aquatic Chemistry & Microbiology[1]	4
Summer Term		
WW 6.168	In-Plant Practicum[1]	12
	Total Credits Required:	**59-60**

1– Courses offered that term only.

Web Design

See Computer User Support.

Welding Technology

Program Contact
David Ketler

Additional Faculty
Dean Dowless, David Schmitke

Welding is a rewarding career for men and women who enjoy challenges and like to work with their hands. Welding is used in constructing ships, automobiles, bridges, buildings, aircraft and many other products. In the welding process, heat is used to fuse metal pieces together. Soldering and brazing are similar processes that are used on electronic and other small equipment.

Personal qualities desirable in a welder include mechanical ability, preciseness and creativity. A welder must be in good physical condition and be able to stand, stoop, kneel and bend. Good eyesight, especially depth perception, is necessary. The ability to work as a team is a valuable asset, but a welder must also have the initiative to work independently.

People already employed in welding or a related field may upgrade their skills by enrolling in the classes offered through the Welding Department. Welding I, Welding II, and Preparation for Certification classes offer students exposure to welding processes and practices. Advanced coursework to prepare for certification in pipe or plate welding is available with instructor permission. Testing is done by an independent agency.

It is recommended that students enter the program in September, although admission is possible at other times, depending on space availability and/or the student's previous experience.

The Welding Technology program supports student participation in Skills USA and the student membership program with the American Welding Society (AWS).

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science degree in Welding Technology will:

- Follow safe practices.
- Demonstrate work ethic.
- Use welding processes and equipment.
- Interpret blueprints.
- Apply appropriate metallurgical principles.

Pipefitter Welder:

- Calculate and lay out pipe.
- Read, synthesize and apply industry codes.
- Demonstrate pipe welding skills.

Industrial Mechanic (millwright):

- Solve and repair industrial equipment.

Fabricator/Welder:

- Select correct materials and procedures to build projects.

Program Requirements

The Welding Department offers several options to prepare people for entry-level positions in welding repair, welder fabricator, industrial mechanics and pipefitter/welder; all of them provide training in welding procedures, print reading, fabrication and layout. Students wanting to enter the program should have basic math and high school-level reading skills. Interested students should consider the Associate of Applied Science degree or the two-year certificate.

Facilities

The welding shop is a large, modern facility with up-to-date equipment. It has 29 oxyacetylene stations, 23 manual stick electrode stations, 44 MIG and 22 TIG stations. Other equipment includes plasma arc, Computer/Numerical Controlled flame cutting, template cutting, shearing, bending, drilling and rigging equipment. Classrooms are conveniently located next to the shop and audiovisual materials are available.

CAREER AND TECHNICAL

Associate of Applied Science Degree in Welding Technology

See Appendix C for graduation requirements for the Associate of Science degree.

General Education Requirements 19

Classes shown below in italic are general education classes and are included in the curriculum.

Program Requirements 75

Course No.	Course Title	Credits
Fall Term - First Year		
MTH 061	*Survey of Math Fundamentals*	*3*
WD 4.151	Welding I	2
WD 4.240	Basic Arc Welding (SMAW)[1]	6
WD 4.242	Fabrication & Repair Practices I[1]	4
WD 4.258	Basic Print Reading: Welders[1]	3
Winter Term		
IN 1.197	Introduction to Industrial Computers	1
WD 4.241	Intermediate Arc Welding (GMAW & GTAW)[1]	6
WD 4.243	Fabrication & Repair Practices II[1]	4
WD 4.247	Interpreting Metal Fabrication Drawings[1]	3
WR 121	*English Composition*	*3*
Spring Term		
MTH 063	*Industrial Shop Math*[1]	*1*
WD 4.245	Layout Procedures for Metals[1]	3
WD 4.246	Advanced Arc Welding (SMAW & FCAW)[1]	6
WD 4.250	Fabrication & Repair Practices III[1]	4
Fall Term - Second Year		
	Health & Physical Education	*2*
SP 100	*Introduction to Speech Communication*	*3*
WD 4.256	Basic Pipe Welding Skills	4
	Electives or CWE	6
Winter Term		
	Science, Technology & Society	*3*
WD 4.255	Fabrication of Structural Systems	4
WW 6.156	Industrial Electricity[1]	3
	Electives or CWE	5
Spring Term		
	Cultural Diversity & Global Awareness	*3*
HE 112	*Emergency First Aid*	*1*
WD 4.157	Machinery Operation Essentials	3
WD 4.257	Fab & Repair: Applied Problem Solving[1]	4
	Electives or CWE	4

Select from the following list of electives:

EG 4.407	Introduction to CAD (4 credits)
HV 3.132	Advanced Mobile Hydraulics (5 credits)
HV 3.134	Basic Hydraulics[1] (3 credits)
MA 3.396B	Manufacturing Processes I (2 credits)
MA 3.397B	Manufacturing Processes II (2 credits)
WD 4.154	Welding Seminar (1-4 credits)
WD 4.280	Aluminum Welding GTAW & GMAW (2 credits)
WD 4.160	Prep for Certification (2 credits)

Other courses with advisor's approval

Total Credits Required: 94

CAREER AND TECHNICAL

Two-Year Certificate in Welding Technology

Course No.	Course Title	Credits
Fall Term - First Year		
MTH 060	Introduction to Algebra	4
WD 4.151	Welding I	2
WD 4.240	Basic Arc Welding (SMAW)[1]	6
WD 4.242	Fabrication & Repair Practices I[1]	4
WD 4.258	Basic Print Reading: Welders[1]	3
Winter Term		
IN 1.197	Introduction to Industrial Computers	1
WD 4.241	Intermediate Arc Welding (GMAW & GTAW)[1]	6
WD 4.243	Fabrication & Repair Practices II[1]	4
WD 4.247	Interpreting Metal Fabrication Drawings[1]	3
Spring Term		
MTH 063	Industrial Shop Math[1]	1
WD 4.245	Layout Procedures for Metals[1]	3
WD 4.246	Advanced Arc Welding (SMAW & FCAW)[1]	6
WD 4.250	Fabrication & Repair Practices III[1]	4
Fall Term - Second Year		
	Health & Physical Education	2
SP 100	Introduction to Speech Communication	3
WD 4.256	Basic Pipe Welding Skills	4
	Elective or CWE	5
Winter Term		
WD 4.255	Fabrication of Structural Systems[1]	4
WR 095	College Writing Fundamentals	3
	Electives or CWE	4
WW 6.156	Industrial Electricity[1]	3
Spring Term		
HE 112	Emergency First Aid	1
WD 4.157	Machinery Operation Essentials	3
WD 4.257	Fabrication & Repair: Applied Problem Solving[1]	4
	Electives or CWE	6

Select from the following list of electives:

EG 4.407	Introduction to CAD (4 credits)
HV 3.132	Advanced Mobile Hydraulics (5 credits)
HV 3.134	Basic Hydraulics (3 credits)
HV 3.260	Basic Wire Feed Welding (2 credits)
MA 3.396B	Manufacturing Processes I (2 credits)
MA 3.397B	Manufacturing Processes II (2 credits)
WD 4.154	Welding Seminar (1-4 credits)
WD 4.280	Aluminum Welding GTAW & GMAW (2 credits)
WD 4.160	Prep for Certification (2 credits)

Other courses with advisor's approval

Total Credits Required: 89

CAREER AND TECHNICAL

One-Year Certificate in Welding Technology

Course No.	Course Title	Credits
Fall Term		
MTH 060	Introduction to Algebra	4
WD 4.151	Welding I	2
WD 4.240	Basic Arc Welding (SMAW)[1]	6
WD 4.242	Fabrication & Repair Practices I[1]	4
WD 4.258	Basic Print Reading: Welders[1]	3
Winter Term		
IN 1.197	Introduction to Industrial Computers	1
WD 4.241	Intermediate Arc Welding (GMAW & GTAW)[1]	6
WD 4.243	Fabrication & Repair Practices II[1]	4
WD 4.247	Interpreting Metal Fabrication Drawings[1]	3
	Select one writing course at appropriate level (based on Placement Test score)	3
Spring Term		
MTH 063	Industrial Shop Math I	1
WD 4.245	Layout Procedures for Welding[1]	3
WD 4.246	Advanced Arc Welding (SMAW & FCAW)[1]	6
WD 4.250	Fabrication & Repair Practices III[1]	4
	Total Credits Required:	**50**

Wine and Food Dynamics

Program Contacts:
Scott Anselm

Additional Faculty:
John Jarschke

This program focuses on the relationship of food and wine and how to pair wine with food for the enhancement of both. Principles of viticulture, wine making, food and sauce preparation, and tasting and analyzing techniques are explored. The Wine and Food Dynamics program is for individuals who want to be or are currently involved in the marketing of wine and food, or for any individuals who want to enhance their understanding of wine and food.

Since the Wine and Food Dynamics program features extensive use and tasting of wine, students must be 21 years of age. Students should possess a strong understanding of business math, good communication skills, and have a desire to work directly with customers and staff and be able to work under pressure.

For this program, LBCC is teaming up with Chemeketa Community College and Oregon State University, which already offer several courses in viticulture, wine making and wine appreciation. Some classes will be taken at each of these institutions.

Student Learning Outcomes

Students who successfully complete an Associate of Applied Science degree in Wine and Food Dynamics will:

- Reflect a work ethic equal to the high standards of the profession.
- Understand and utilize wine terminology and the fit between food and wine.
- Understand and implement proper methods of purchasing, storing, cooking and serving wine and accompanying products.
- Communicate appropriately with customers at all levels of wine sophistication.

Program Requirements

Since the Food and Wine Dynamics program features extensive use and tasting of wine, students must be 21 years of age. Students should possess a strong understanding of business math, good communication skills, and have a desire to work directly with customers and staff. Students should be able to work under pressure and should demonstrate manual dexterity, physical stamina, concentration, good memory, and have a cheerful, friendly, outgoing personality.

In addition to regular college costs, students spend about $500 to purchase books, uniforms, knives, shoes and other equipment. Students should wait until after the first day of class to purchase these items.

Facilities

This program is offered through cooperation between Linn-Benton Community College, Chemeketa Community College and Oregon State University. All these institutions and the local industry partners have a wide variety of modern equipment and state-of-the-art culinary lab facilities.

CAREER AND TECHNICAL

Associate of Applied Science Degree in Wine and Food Dynamics

General Education Requirements 19
See Appendix A for graduation requirements for the Associate of Applied Science degree. Classes shown below in italic are general education classes.

Program Requirements 74-75

Course No.	Course Title	Credits
Fall Term - First Year		
CA 8.346	Cooking Fundamentals (for non-culinary students) (LBCC)	3
CA 8.347	Beverage Server Training (LBCC)	1
EC 115	*Outline of Economics (LBCC)* (Three credits apply toward general education requirements; one credit applies toward program.)	*3(1)*
VMW 101	General Viticulture (Chemeketa)	3
VMW 131	Wine Appreciation (Chemeketa)	3
Winter Term		
CA 8.348	Wine Analysis & Theory (LBCC) or	
VMW 232	Sensory Evaluation of Wine Varieties (Chemeketa)	3
PE 231	*Lifetime Health & Fitness (LBCC)*	*3*
VMW 132	Wines of the World (Chemeketa)	3
	Electives	4
	Cooperative Work Experience	2
Spring Term		
MTH 061	*Survey of Math Fundamentals*	*3*
MTH 064	*Business Applications of Math Fundamentals*	*1*
SD 101	Supervision Fundamentals (LBCC)	3
VMW 134	Wines of the Pacific Northwest (Chemeketa)	3
	Cooperative Work Experience	3
WR 121	*English Composition (LBCC)*	*3*
Fall Term - Second Year		
BA 223	Principles of Marketing (LBCC) or	
VMW 170	Wine Marketing (Chemeketa)	3
BI 234	Microbiology (LBCC)	4
CA 8.361	Food & Wine Pairing (LBCC)	4
HTM 101	Hospitality & Tourism Management (Chemeketa)	3
	Electives	3

1– Courses offered that term only.

Winter Term

BA 285	Business Relations in a Global Economy (LBCC)	4
CA 8.349	Cooking with Wine (Sauces) (LBCC)	3
SP 100	*Introduction to Speech Communication (3 cr, LBCC)* or	
CA 8.301	Culinary Arts Career Planning (1 cr, LBCC)) and	
SP 111	*Fundamentals of Speech (3 cr, LBCC)*	*3-4*
	(Three credits apply toward general education requirements; one credit applies toward program.)	
VMW 122	Introduction to Winemaking (Chemeketa)	3
	Electives	4

Spring Term

CA 8.360	Cooking with Wine (Entrees) (LBCC)	3
CA 8.364	Banquets & Buffet Sommelier Lab (LBCC)	2
	Science, Technology & Society	*3*
SP 112	Introduction to Persuasion (LBCC)	3
VMW 233	Sensory Evaluation of Wine Components (Chemeketa) or	
FST 335	Sensory Properties of Wine & Beer (OSU)	3
	Total Credits Required:	**93-94**

Workforce Training

Cost-Recovery Training Programs

Cost-Recovery Training programs and courses prepare students for entry level employment in a variety of fields that have a career ladder for advancement. The state approved certificate programs are offered as needed, depending on the current openings in the local job market and the number of interested students.

The format for these programs and courses is intense and condensed. A group of students completes all the courses in a certificate program together, and attends class for approximately 30 to 40 hours each week. The programs and courses include workplace and job search skills.

The cost of these programs and courses varies. The advertised price for each program or course includes all tuition, fees, books, and supplies. Cost of the programs is subject to change.

Cost recovery pricing structures allow the college to continue to grow and meet the changing needs of students and local businesses. The price of cost recovery programs is compared to tuition based programs by determining a cost per hour of classroom instruction. The college makes every effort to keep the price for these cost recovery programs close to the tuition based programs, based on a cost per hour of instruction model.

The following Cost-Recovery Training programs qualify for financial aid if the student is eligible to receive aid: Pharmacy Technician, Veterinary Technology, Phlebotomy and Diagnostic Imaging.

For more information about Cost-Recovery Training programs, contact the Health Occupations and Workforce Education Division Office at LBCC, 917-4923.

Diagnostic Imaging (Radiologic Technology)[9]

Diagnostic Imaging is an 18-month intensive program. Students receive a two-year certificate and an Associate of General Studies Degree. The Diagnostic Imaging program prepares students through a progressive, outcomes-based educational format. Content matter is categorized into specific modules that serve as tools for measuring student progress in every element of the program. Modules of study include Radiation Protection, Radiographic Procedures, Image Production and Evaluation, Equipment Maintenance and Operation, Patient Care and Management, and Clinical Radiography.

The purpose of this program is to prepare students to practice as proficient, multi-skilled professionals in culturally diverse health care settings; to demonstrate outcomes required by the American Registry of Radiologic Technologists (ARRT) and program guidelines; and to apply for and successfully complete ARRT certification examinations.

A group of up to 25 students move through this training as a cohort. Classes are tailored specifically to these students, who attend class for approximately 40 hours a week. It does not follow the traditional college terms.

Student Learning Outcomes

Students who successfully complete a two-year certificate in radiologic technology will:

- Demonstrate competency in all 39 of the mandatory and in 10 of the elective ARRT Radiological Procedures.
- Operate, store, handle and/or process any imaging information to quality-imposed standards.
- Provide patient care and comfort with empathy.
- Abide by the ethics and the professional conduct of medical professionals and the ASRT Code of Ethics and the ARRT Standard of Ethics.
- Position patients accurately and provide quality images.
- Apply the principles protection/education to the patients, self and others.

Admission Requirements

Special admission requirements include completion of Math 111 College Algebra, within the last five years, or an equivalent math course from a regionally accredited institution with a "C" or better, or have taken the Computerized Placement Test with a percentile ranking of 81–99 percent in algebra and 89–95 percent in college math; WR 121 English Composition or an equivalent course from a regionally accredited institution with a "C" or better; 3 credits of speech (SP 100, 111, 112, or 218), or an equivalent course through an accredited institution with a "C" or better; Anatomy & Physiology (BI 231, BI 232 and BI 233) or equivalent courses through an accredited institution with a "C" or better; MO 5.630 Medical Terminology and Body Systems or equivalent course from an accredited institution with a "C" or better or pass the LBCC Challenge Exam; and 4 credits of HE/PE (HE 112, 125, 225, 252, 261, and PE 185 or 231), or an equivalent course through an accredited institution with a "C' or better; and possess a current CPR card: American Heart Association or Red Cross. Students are required to have current vaccinations and complete a criminal background check. Students also may be required to submit to a drug screen test. Eligible applicants are admitted based on points awarded on the points worksheet in the Admission Bulletin. This is a cost recovery program. Students must deposit a portion of the cost of the program prior to beginning classes. The cost of this program is subject to change.

Course No.	Course Title	Credits
OA 2.616	Job Success Skills	1
RT 5.750	Introduction to Radiology	2
RT 5.755	Radiographic Procedures & Positioning with Lab I	2
RT 5.756	Radiographic Procedures & Positioning with Lab II	2
RT 5.757	Radiographic Procedures & Positioning with Lab III	2
RT 5.758	Radiographic Procedures & Positioning with Lab IV	2
RT 5.759	Radiographic Procedures & Positioning with Lab V	4
RT 5.765	Clinical Radiography I	11
RT 5.766	Clinical Radiography II	11
RT 5.767	Clinical Radiography III	11
RT 5.768	Clinical Radiography IV	11
RT 5.771	Principals of Exposure	3
RT 5.775	Cultural Competence in Health Occupations	2
RT 5.777	Radiation Biology	3
RT 5.779	Radiation Protection	3
RT 5.783	Radiographic Equipment & Maintenance	3
RT 5.786	Radiographic Pathology	3
RT 5.791	Radiation Physics	3
RT 5.796	Pharmacology	2
RT 5.799	Radiological Technology Comprehensive Review	3
	Total Credits	**84**

Emergency Management Leadership Program[9]

Program Contact: Jim Bell, 917-4547

The Emergency Management Leadership Certificate is designed to provide training for individuals and organizations needing to develop a comprehensive plan to respond to pandemics, terrorism or natural disasters. Training is focused toward health care administrators, health care practitioners, government officials and public safety officials.

Courses will be a blend of online/Internet-based coursework with standard in-person lecture/lab meetings, and will follow an open entry/open exit model taking five quarters to complete.

The Emergency Management Leadership program provides critical skills and knowledge in dealing with both natural and human-caused disasters.

Student Learning Outcomes

Students who successfully complete a certificate in Emergency Management Leadership will:

- Understand current Incident Command System and its philosophy and practice.
- Effectively work with internal and external partners to develop effective emergency plans.
- Understand how the public reacts to emergencies and effectively disseminate information to them and the media.
- Have a working knowledge of: nature and types of nuclear, biological, chemical and natural hazard emergencies.
- Effectively manage emergency situations in the workplace.

Program Requirements

Students are expected to complete the following special admissions requirements:

- Working towards certification in IS 700 NIMS (through FEMA-online courses).
- Documentation of citizenship.

Course No.	Course Title	Credits
EL 5.200	Introduction to Emergency Planning	2
EL 5.205	Introduction to Critical Incident System	2
EL 5.210	Public Response to Emergency Situations	2
EL 5.215	Chemical Weapons and HAZMAT Incidents	2
EL 5.218	Nuclear and High Explosive Weapons	2
EL 5.221	Biological Weapons and Disease Outbreaks	3
EL 5.225	Natural Disasters	3
EL 5.230	Developing Resources and Plans for ICS	2
EL 5.240	Current Crisis Leadership Practices	2
EL 5.245	Introduction to Emergency Management Experience.	2
EL 5.255	Capstone EM Experience	2
	Total Credits:	**24**

Accelerated Cost-Recovery Training Programs

Pharmacy Technician Training[9]

This less-than-one-year certificate program prepares students for gainful employment as pharmacy technicians in any number of pharmacy settings. The program also prepares students to pass the National Pharmacy Technician Certification Test to become Certified Pharmacy Technicians.

To accomplish these goals, the program combines classroom instruction with lab work and clinical experience. The curriculum is based on the broad learning objectives established by the American Society of Health Systems Pharmacists, the national accrediting body for pharmacy technology programs. Nineteen pharmacies in the Linn and Benton county area helped develop the program, and local pharmacists teach the classes.

In order to meet the basic curriculum requirements of the Pharmacy Technician Educators Council, courses such as Pharmacy Law and Ethics, Technical Mathematics, Pharmacy Practicum and computer concepts are incorporated. In these courses, students develop communication, computer literacy and interpersonal relations skills, as well as teamwork, responsibility and initiative.

A group of students completes the training together and attend class for approximately 30 hours a week. A 150-hour cooperative work experience is part of the training and takes place at area hospitals, clinics and retail stores.

Student Learning Outcomes

Students who successfully complete a certificate in pharmacy technician will :

- Interpret and accurately fill medication orders.
- Input prescription information into pharmacy database.
- Calculate safe dosages of medication.
- Identify differences between generic and brand name drugs to meet insurance criteria.
- Abide by the ethical and professional conduct of medical professionals and the American Pharmaceutical Association Code of Ethics for Pharmacists.
- Maintain HIPAA regulations and patient/customer confidentiality.
- Communicate information effectively between the patient/customer and pharmacist.

Admission Requirements

Special admissions requirements include attendance at a program orientation, completion of WR 095 College Writing Fundamentals and MTH 060 Introduction to Algebra or equivalent score on Computerized Placement Test, and a completed LBCC admissions application form. Students accepted into the program have to pass a criminal background check. The cost of this program varies.

Course No.	Course Title	Credits
BA 2.108	Customer Service	2
OA 2.616	Job Success Skills	1
OA 2.925	Basic Microsoft Office Skills	1
PH 5.901	Pharmacy Technician	3
PH 5.905	Pharmacy Laws & Ethics	2
PH 5.910	Pharmacy Math	4
PH 5.915	Pharmacology & Drug Classification for Pharmacy Technicians	5
PH 5.920	Pharmacy Operations: Retail & Institutional	2
PH 5.925	Workplace Spanish for Health Care Professionals	2
WE 1.2803	Cooperative Work Experience	5
	Total Credits:	**27**

Phlebotomy Technician Program[9]

This less-than-one-year certificate program prepares students for employment as a phlebotomist. It will also prepare students for certification examinations of the American Society of Clinical Pathologists and the National Accrediting Agency for Clinical Laboratory Sciences. To accomplish these goals, the program combines classroom instruction with lab work and clinical experience. Skill areas covered are: vacuum collections, arterial specimen collection, capillary skin punctures, butterfly needles, blood cultures and specimen collection on adults, children and infants.

A group of students moves through this training as a cohort. Classes are tailored specifically to these students, who attend class for approximately 35 hours a week. The first 11 weeks of the training are in the classroom. The last four weeks are in a clinic, hospital or physician's office.

1– Courses offered that term only.

9– A cost-recovery program. See "Workforce Training" section for details.

Student Learning Outcomes

Students who successfully complete a certificate in phlebotomy will:

- Practice safe laboratory procedures for blood borne pathogens.
- Effectively perform the three methods of venipuncture (the evacuated tube system or winged infusion/butterfly system, or syringe), and the skin puncture method using lancets and tubes.
- Provide patient care and comfort with empathy.
- Abide by the ethical and professional conduct of medical professionals.
- Communicate effectively with patient, healthcare staff, and other medical providers.

Admission Requirements

Special admissions requirements include attendance at a program orientation, completion of WR 095 College Writing Fundamentals and MTH 060 Introduction to Algebra or equivalent score on Computerized Placement Test, current immunizations and a completed LBCC admissions application form. The cost of this program varies.

Course No.	Course Title	Credits
MO 5.532	Medical Terminology for Phlebotomists	2
OA 2.616	Job Success Skills	1
OA 2.671	Medical Law & Ethics	3
OA 2.679	Basic Medical Coding	1
OA 2.925	Basic Microsoft Office Skills	1
PH 5.310	Phlebotomy	8
PH 5.320	Anatomy & Physiology for Phlebotomists	2
PH 5.330	Communication/Customer Service for Phlebotomists	2
WE 1.2804	Cooperative Work Experience	5
	Total Credits:	**25**

Veterinary Technology[9]

This less-than-one-year certificate program provides prospective veterinary assistants/technicians with education and experience in commonly used medical and surgical techniques, as well as an understanding of common disease states of animals. The program also provides an introduction to animal hospital management, business procedures and job preparation skills. Students will be able to step into an entry-level position with the confidence and competence necessary to be a productive addition to the staff.

The structure of the program is integrative, with each week focusing on one or more related topics and weekly laboratory time devoted to reinforcing those topics. Guest speakers, such as board-certified specialists and industry representatives, cover specific areas. The curriculum focuses primarily on small animal species, but information regarding large animal species is incorporated wherever possible to prepare students for the national board exam.

The cooperative work experience will take place in an area veterinary clinic or hospital. A group of students complete the training together and attend class for approximately 35 hours a week.

Student Learning Outcomes

Students who successfully complete a certificate in veterinary technology will:

- Perform appropriate medical procedures on a variety of species.
- Effectively communicate with clients, co-workers, and medical personnel.
- Utilize standard veterinary office protocol and forms.
- Present themselves as viable candidates for jobs in veterinary technology.

Admission Requirements

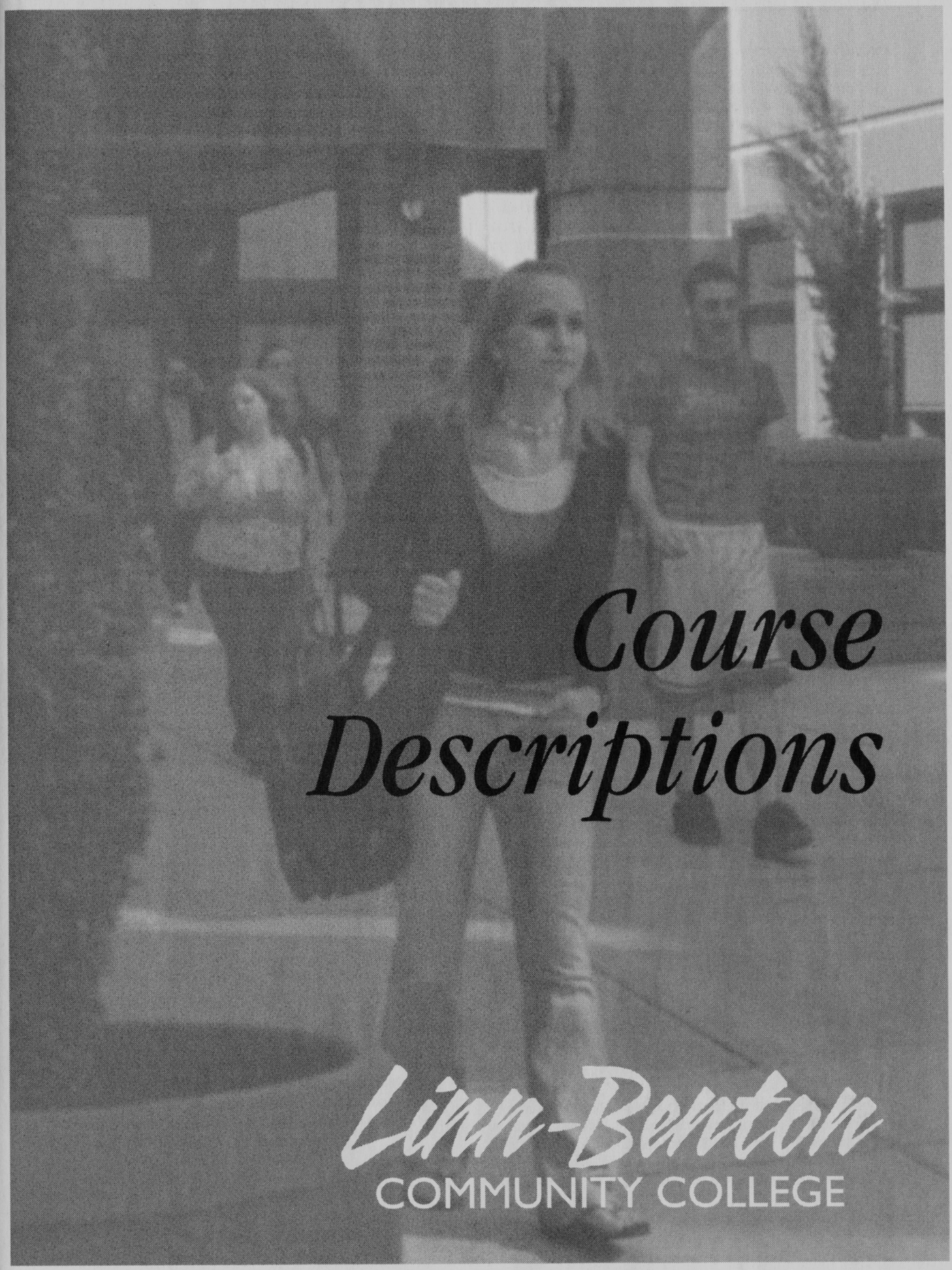
Special admissions requirements include a completed job observation checklist, attendance at a program orientation, completion of WR 115 Introduction to College Writing and MTH 060 Introduction to Algebra or equivalent score on the Computerized Placement Test, and a completed LBCC admissions application form. The cost of this program varies.

Course No.	Course Title	Credits
BA 2.108	Customer Service	2
OA 2.616	Job Success Skills	1
OA 2.925	Basic Microsoft Office Skills	1
VT 8.601	Foundation Sciences	2
VT 8.605	Veterinary Medicine	7
VT 8.610	Veterinary Clinic Practices	1
VT 8.615	Clinical Sciences	2
VT 8.620	Surgery & Anesthesia	2
VT 8.625	Veterinary Radiology	2
VT 8.630	Pharmacology	2
WE 1.280	Cooperative Work Experience	5
	Total Credits:	**27**

Writing

See English.

9– A cost-recovery program. See "Workforce Training" section for details.


Course
Descriptions
Linn-Benton
COMMUNITY COLLEGE

Course Information

- Professional Technical courses have alphabetical prefixes and are generally numbered 2.000 through 8.999.
- Courses with 100 and 200 numbers are usually transferable to four-year institutions.
- Courses numbered 0.100 to 0.999 do not apply toward LBCC degree and certificate programs.
- Many departments offer professional/industry related courses not listed in this catalog. Please contact the appropriate department for a list and schedule of these courses, workshops and seminars.

Courses marked with the symbols below may be applied toward fulfilling the general education requirements for the Associate of General Studies degree. For lists of classes that fulfill general education requirements for other degrees offered at LBCC, see the "Graduation Requirements" section of this catalog.

➢ Humanities/Art

● Math/Science

■ Social Sciences

AA: ART (GRAPHIC DESIGN)

Courses with the AA prefix are career and technical courses that have a primary purpose of meeting requirements for the Associate of Applied Science degree. Four-year institutions may or may not accept them for transfer credit.

AA 198 Independent Studies
(2–6 class hrs/wk, 1–4 cr) F/W/Sp
Individual instruction in advanced problems relevant to the student's interests and needs. Prerequisite: Instructor's approval.

AA 221 Graphic Design I
(6 class hrs/wk, 4 cr) F
Introduction to graphic design. Examines visual communication through the application of the elements and principles of art. Studies static vs. dynamic, visual centering, design systems, metamorphosis and continuums. Instills critical analysis and good design judgment. Prerequisites: AA 239 Illustration III or instructor's approval.

AA 222 Graphic Design II
(6 class hrs/wk, 4 cr) W
Studies publication design. Includes examination of formula vs. format, direct mail, poster, magazine and book design. Environmental implications are discussed. Teamwork and interaction are stressed. Instills critical analysis and good design judgment. Prerequisite: AA 221 Graphic Design I.

AA 223 Graphic Design III
(6 class hrs/wk, 4 cr) Sp
Studies corporate mark design, the development of symbols, logos, design programs and identity systems. Examines the design's adaptability, application, practicality and integrity. Environmental issues are discussed. Teamwork and interaction are stressed. Instills critical analysis, process and good design judgment. Prerequisite: AA 222 Graphic Design II.

AA 224 Typographical Design I
(6 class hrs/wk, 4 cr) W
Introduction to letterforms. Develops a fundamental awareness of type and typographic design. Studies the evolution, art and vocabulary of typography; handbuilt letterforms; and designing with type. Emphasizes typography as a working tool. Prerequisites: GA 3.153 Digital Illustration I; GA 3.156 Digital Page Layout I; GA 3.157 Digital Image Manipulation I.

AA 225 Packaging and 3-D Design
(6 class hrs/wk, 4 cr) W
Introduction to design, display and merchandising of three-dimensional marketing solutions. Stresses suitability of concept, design and color as applied to various products. Materials and methods of printing, cutting, folding and assembly are explored for tactile and visual effect. Environmental issues are discussed. Good client/designer relationships are stressed. Prerequisites: AA 224 Typographical Design; AA 237 Illustration I; GA 3.155 Digital Illustration III; GA 3.168 Digital Page Layout III; GA 3.169 Digital Image Manipulation III.

AA 226 Typographical Design II
(6 class hrs/wk, 4 cr) F
Continues the study, use and design of letterforms. Emphasizes creating original type variations and form manipulation. Prerequisites: AA 224 Typographical Design I; GA 3.155 Digital Illustration III; GA 3.168 Digital Page Layout III; GA 3.169 Digital Image Manipulation III.

AA 228 Portfolio Preparation: Professional Practices
(6 class hrs/wk, 4 cr) Sp
Emphasizes reevaluation of previously produced projects; organization and production of the business card, business stationery, résumé, envelope, self-promotional and comprehensive portfolio. Covers current job opportunities; methods in merchandising job talents; action before, during and after the interview; business practices and ethics are covered. Intended for second-year graphic design students. Students present their professional portfolios to public at Portfolio Presentations and in a more personal setting at the reception that follows. Prerequisites: AA 222 Graphic Design II; AA 226 Typographical Design II. Corequisite: AA 223 Graphic Design III.

AA 237 Illustration I
(6 class hrs/wk, 4 cr) F
Explores and develops skills in the use of various tools, materials and techniques. Increases student awareness of illustrative possibilities and processes. Pen and ink, graphite and ink wash are included. Prerequisites: GA 3.153 Digital Illustration I, GA 3.156 Digital Page Layout I, GA 3.157 Digital Image Manipulation I, ART 133 Drawing III. Corequisite: AA 234 Figure Drawing.

AA 238 Illustration II
(6 class hrs/wk, 4 cr) W
Explores rendering with markers. Moves from an exercise, process and technique orientation to product rendering and ad development. Prerequisite: AA 237 Illustration I.

AA 239 Illustration III
(6 class hrs/wk, 4 cr) Sp
Explores further possibilities in illustration using soft pastel and colored pencil. Stresses conceptual development of illustration dealing with written material. Prerequisite: AA 238 Illustration II.

AA 280 CWE Graphics
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to graphics. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: GA 3.157 Digital Image Manipulation I, GA 3.156 Digital Page Layout I, and CWE coordinator approval.

AG: AGRICULTURE

AG 111 Computers in Agriculture
(3 class hrs/wk, 2 cr) F/W/Sp
Agricultural examples and problems are utilized as a basis for the material in this course. Provides hands-on experience in the areas of word processing, spreadsheets, PowerPoint and web site development.

AG 280A CWE Agriculture
(6–42 class hrs/wk, 2–14 cr) As needed
Designed to give students practical experience in supervised employment related to agriculture. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

AG 280B CWE Animal Technology
(6–42 class hrs/wk, 2–14 cr) As needed
Designed to give students practical experience in supervised employment related to animal technology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

AG 280C CWE Horticulture
(6–42 class hrs/wk, 2–14 cr) As needed
Designed to give students practical experience in supervised employment related to horticulture. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

AG 8.120 Seed Science and Technology
(4 class hrs/wk, 3 cr) W
An agriculture class that trains potential seed analysts, seed dealers, seed warehouse persons, and seed regulator agents in the technology areas of seed science.

AG 8.130 Pesticide Safety
(5 class hrs/wk, 4 cr) W
Covers background information in use of herbicides, insecticides, fungicides and other pesticides. Types of materials, safety in handling, storage and method of application are emphasized. Students develop ability to calibrate pesticide application equipment and explain to customers the precautions to be observed with agricultural chemicals. Attention also is given to keeping current with changes in pesticide record keeping procedures. Prepares students to take pesticide applicator examination.

AG 8.131 Pest Management
(4 class hrs/wk, 3 cr) F
Includes the classification, anatomy, growth, life history, recognition and control principles of selected weeds, diseases and insect pests. Introduces integrated pest management (IPM) and plant health care (PHC) programs. Environmental protection and public safety are considered.

AG 8.138 Irrigation Systems
(4 class hrs/wk, 3 cr) W
Introduces principles and practices of landscape and field crop irrigation, including soil, water and plant relations; water sources; quality; methods of distribution; and measurement. System design and selection also are emphasized, including surface and subsurface drainage systems. Includes water conservation, public safety and legal issues.

AH: ALLIED HEALTH / HOSEC

AH 5.409 Career Counseling for Pre-Nursing
(5 class hrs/wk, 1 cr) F/W/Sp
Provides pre-nursing applicants with an assessment of their own personal characteristics as they examine the career of nursing. Guidance in choosing a nursing career. Note: Two-week class.

ANS: ANIMAL SCIENCE

ANS 121 Introduction to Animal Science
- *(5 class hrs/wk, 4 cr) F/Sp*

Examines body systems of the food and fiber species and the interaction of these systems. Introduces the student to various phases of the livestock industry, including terminology, production practices, marketing and selection techniques. Students are expected to build communication skills through weekly lab reports and class presentations. Lab sessions are designed for hands-on experience with livestock. Emphasis is placed on the nutritional, reproductive and physical needs of the animals. This course includes a laboratory component.

ANS 207 Careers in Animal Agriculture
(1 class hr/wk 1 cr) W
Explores career opportunities in animal science. Includes guest lecturers from various fields of animal agriculture as well as an emphasis on résumé writing and job interviewing.

ANS 210 Feeds and Feed Processing
(5 class hrs/wk, 4 cr) W
Covers basic animal nutrition, including digestive systems and nutrients. Studies methods of determining feed values, types of feed, feed characteristics, nutritional requirements and composition, methods of feeding and feed processing.

ANS 211 Applied Animal Nutrition
(4 class hrs/wk, 3 cr) Sp
Introduces formulating and analyzing rations for livestock, balancing nutritional needs and choice of ingredients in relation to cost and suitability. Includes economics of livestock feeding and performance indicators. Prerequisite: ANS 210 Feeds and Feed Processing.

ANS 215 Applied Beef Production
(5 class hrs/wk, 4 cr) F
Covers fundamentals of modern beef production and management, including cattle breeds, mating systems and reproduction, nutrition, marketing, production testing, diseases and parasites, and other management practices. Particular emphasis is on developing beef husbandry skills.

ANS 216A Applied Sheep Production
(5 class hrs/wk, 4 cr) W
Covers fundamentals of modern sheep production, including sheep breeds, industry segments, nutrition, reproduction, diseases and parasites, wool evaluation, marketing and modern management practices. Note: Course offered alternate years only. Offered Winter 2008.

ANS 216B Applied Swine Production
(5 class hrs/wk, 4 cr) W
Covers fundamentals of modern swine production, including swine breeds, marketing, reproduction, nutrition, production testing, diseases and parasites, production problems, and environmental concerns. Note: Course offered alternate years only. Offered Winter 2009.

ANS 220 Introductory Horse Science
(5 class hrs/wk, 4 cr) F
Basic course in commercial horse production and management. Covers breeds, breeding systems, physiology, nutrition, reproduction and diseases. Also develops basic skills in handling, foot care, feeding, selection and health management.

ANS 221 Equine Industries
(5 class hrs/wk, 3 cr) Sp
Teaches students practical skills in four specific areas of horse science: anatomy, foot and leg care, fitting and showing, and horse conformation judging. Recognizing common unsoundnesses and blemishes also is covered. In addition, students learn proper techniques for preparing horses for show competition in halter, and are exposed to Western and English pleasure, reining, cutting, dressage, show jumping and the saddle seat industries.

ANS 222 Young Horse Training
(6 class hrs/wk, 2 cr) F
Provides hands-on training. The student is assigned a young horse to train for the term. The training consists of halter breaking, leading, sacking, longeing, trailer loading and handling the feet. Saddling, bitting, ground driving and early stages of riding are taught, as well as grooming, safety and use of equipment.

ANS 223 Equine Marketing
(2 class hrs/wk, 2 cr) W
Introduces the practical concepts of equine marketing. Emphasizes assessing the market, targeting potential buyers, and preparing and presenting the product. Business law, as it relates to equine marketing, is discussed. Through practicing interviewing skills and writing a résumé, students learn to "market themselves."

ANS 227 Artificial Insemination
(5 class hrs/wk, 4 cr) Sp
Includes instruction on reproductive organs, hormones, heat diagnosis, semen collection, insemination techniques, semen evaluation, pregnancy testing, freezing and dilution methods. Hands-on experience is stressed. Note: Recommended for second-year students.

ANS 231 Livestock Evaluation
(5 class hrs/wk, 3 cr) Sp
Introduces criteria and principles in the physical evaluation of beef, sheep and swine. Emphasizes correctness of body type, relation of type to production, market standards, soundness and body parts. Extensive time is spent on applying techniques in evaluating live animals.

ANS 278 Genetic Improvement of Livestock
(5 class hrs/wk, 4 cr) W
Introduces basic, practical concepts of improving livestock through a variety of genetic programs, including genetic possibilities, utilizing heritability for production gains, inbreeding coefficient, mating systems, genetic predictors and improvement programs. Corequisite: MTH 065 Elementary Algebra.

ANTH: ANTHROPOLOGY

ANTH 103 Introduction to Cultural Anthropology
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Surveys the field of cultural anthropology and its focus — studying human behavior and culture. Introduces a methodology for studying human sociocultural adaptations. Includes the topics of major cross-cultural studies with a focus on language, economics, marriage, kinship, gender, political organization, stratification, and spiritual belief systems. Examines traditional and contemporary practices, the processes of culture change, and the application of cultural anthropology to practical society problems. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

ANTH 198 Research Topics
(1 class hr/wk, 1 cr)
Offers topics of study in anthropology with individual research and/or field study. Prerequisite: WR 121 English Composition.

ANTH 210 Comparative Cultures
■ *(3 class hrs/wk, 3 cr) As needed*
Examines the ethnographic process anthropologists use to study other cultures, the process of comparing two or more cultures in an ethnologic context, and the development of cultures over time to be what they are today. Introduces a methodology for engaging in culturally relative dialogue is introduced and then emphasized in all learning activities. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

ANTH 230 Time Travelers
■ *(3 class hrs/wk, 3 cr) F/W*
Introduction to how the past is studied by archaeologists. The history of archaeology, archaeological theories, and archaeological methods will be discussed and explored in a variety of contexts. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

ANTH 232 Native North Americans
■ *(3 class hrs/wk, 3 cr) F/Sp*
Focuses on Native American cultures and their ancestors in prehistoric, historic, and contemporary contexts. Anthropological evidence, including archaeology and ethnography, and indigenous evidence, including precontact customs and oral histories and traditions, are used to create holistic perspectives on early Native American cultures and cultures today. Later changes resulting from contact, westernization, and assimilation are investigated. Native American cultures in today's world are also explored. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

ANTH 280 CWE Anthropology/Archaeology
(6–42 class hrs/wk, 2–14 cr)
Gives students practical experience in supervised employment related to anthropology/archaeology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

ARE: AGRICULTURE AND RESOURCE ECONOMICS

ARE 211 Management in Agriculture
(4 class hrs/wk, 4 cr) F/W
Covers agriculture as a business; the decision-making process; tools of decision making; acquiring, organizing and managing land, labor and capital resources; and reasons for success and failure. Students learn teamwork, cooperation and leadership skills through classroom simulation, group activities and assignments.

ARE 221 Marketing in Agriculture
(3 class hrs/wk, 3 cr) F/W
Covers all aspects of sales and marketing of agricultural products, including fruits and vegetables, cereal grains, milk and dairy products, commercial and purebred livestock. The commodities futures market and other specialized outlets also are included.

ART: ART AND PHOTOGRAPHY

ART 102 Understanding Art
➢ *(3 class hrs/wk, 3 cr) F/W/Sp*
Surveys the basic elements of visual form. Traditional and contemporary visual arts from around the world are examined in ways designed to provide a framework for meaningful responses to form and content.

ART 115 Basic Design I: Composition
➢ *(6 class hrs/wk, 4 cr) F/Sp*
Introduction to theory and studio practice in using the principles and elements of design to articulate visual ideas. Focus will be on concepts relating to 2-D design structure. Students will be exposed to art historical references as they relate to concepts as well as being encouraged to write and think critically about art and design. Emphasis will be on instilling sound foundational information in the traditional aspects of design as well as encouraging thoughtful exploration of contemporary design potential.

ART 116 Basic Design II: Color
➢ *(6 class hrs/wk, 4 cr) W/Sp*
Explore basic color theory and systems for organizing color harmonies. Students are exposed to art historical references and simple physics/optics as they relate to color, and encouraged to think and write critically about color as a form of expression. Students also will develop a critical awareness of color in studio practice, learn historical and cultural context of color usage, and discuss color as a means of visual communication. Prerequisite: ART 115 recommended, but not required.

ART 117 Basic Design: 3-Dimensional
(6 class hrs/wk 4 cr) Sp
A beginning course in the principles of 3-dimensional design. Emphasis will be on creative problem solving in a variety of media. Studio work explores basic elements of space, planes, mass, texture. Fundamental course for students interested in ceramics, sculpture, architecture and other 3-D design fields. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ART 131 Drawing I
➢ *(6 class hrs/wk, 4 cr) F/Sp*
Emphasizes the development of perceptual and technical skills needed to describe 3-D objects on 2-D surfaces. Exposes students to conceptual and technical art references and encourages students to think critically about art and expression as an integral part of learning to draw.

ART 132 Drawing II
➢ *(6 class hrs/wk, 4 cr) W*
Advanced study in the development of composition, drawing technique, and perceptual and technical skills. Exposes students to more challenging art processes and encourages students to think critically about art and expression as their practice regarding drawing is broadened. Prerequisite: ART 131 Drawing I or instructor's approval.

ART 133 Drawing III
➢ *(6 class hrs/wk, 4 cr) Sp*
Students will solve advanced problems of depicting observed and invented form in a variety of media. Creativity and experimentation are emphasized. Prerequisite: ART 132 Drawing II or instructor's approval.

ART 154 Ceramics I
➢ *(6 class hrs/wk, 4 cr) F/W/Sp*
Introduces clay as an expressive material. Emphasis on throwing skills on the wheel with attention to form and function of pots. Clay, glaze and firing techniques included. Note: Offered only at LBCC Benton Center in Corvallis.

ART 181 Introduction to Painting
➢ *(6 class hrs/wk, 4 cr) W*
Explores visual expression on a two-dimensional surface. Uses oil or acrylic paints for spatial development of color, shape and surface. Drawing and design experience recommended. Prerequisite: ART 131 Drawing I or instructor's approval.

ART 198 Independent Studies
(3–6 class hrs/wk, 1–4 cr) F/W/Sp
A special studies class tailored to explore individually arranged projects within a discipline. May include fine arts portfolio preparation and other professional concerns. Prerequisite: Previous studio experience in the chosen area or instructor's approval.

ART 204 History of Western Art
➢ *(3 class hrs/wk, 3 cr) F*
Studies the history of Western visual art prehistory up to Middle Ages and its significance and relationship to humanity. (Recommended, but not required, that courses be taken in sequence.) Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ART 205 History of Western Art
➢ *(3 class hrs/wk, 3 cr) W*
Studies the history of Western visual art of the Middle Ages, Renaissance and Baroque and its significance and relationship to humanity. (Recommended, but not required, that courses be taken in sequence.) Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ART 206 History of Western Art
➢ *(3 class hrs/wk, 3 cr) Sp*
Studies the history of Western visual art of the 17th, 18th, 19th and 20th centuries and its significance and relationship to humanity. (Recommended, but not required, that courses be taken in sequence.) Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ART 234 Figure Drawing
➢ *(6 class hrs/wk, 4 cr) F/Sp*
An introductory course in drawing the nude figure. Emphasis is on basic anatomical structures, surface topography, foreshortening, composition, and form. Students are exposed to art historical references as they relate to the human form, as well as being encouraged to write and think critically about art and expression. May be repeated for credit. Prerequisite: ART 131 Drawing I or instructor's approval. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ART 254 Ceramics II
➢ *(6 class hrs/wk, 4 cr) F/W/Sp*
Provides instruction in clay construction for the experienced student, with advanced throwing and handbuilding, glazing and firing techniques. Note: Offered only at the LBCC Benton Center, Corvallis. Prerequisite: ART 154 Beginning Ceramics or instructor's approval.

ART 261 Introduction to Photography
(3 class hrs/wk, 3 cr) F/W
Introduces principles of photography, including exposure, camera handling, lighting, composition, color and black-and-white film and digital cameras. Also covers the history of photography, study of major artists and their work, and critical analysis of composition and content.

ART 262 Color Photography
(4 class hrs/wk, 3 cr) Sp
Introduces color theory and practice, including exposure of color negative and positive films; color balance and composition; qualities and control of light; critiquing methodology; traditional and digital color printing; and the history and practice of color photography in the fine arts. Prerequisite: ART 261 Introduction to Photography with a "B" grade or better or instructor's approval.

ART 263 Digital Photography
(4 class hrs/wk, 3 cr) W
Introduces digital imaging as an expressive medium. Covers the capture, editing and printing of photographic images in the digital environment, including scanning, image manipulation software, and photo quality output. Emphasis on technique, composition and creative expression. Computer lab work included. Prerequisite: ART 261 Introduction to Photography with grade "B" or better or instructor's approval.

ART 264 Intermediate Black-and-White Photography
(4 class hrs/wk, 3 cr) Sp
Studies black-and-white printing techniques, including archival processing and fine print controls, and the Zone System and other fine art photography techniques, including integrating traditional and digital darkroom processes. Continues the study of the history of photography and its connections to art and social issues of the times, including the Pictorialist, Modernist and West Coast periods. Considerable attention is paid to the critique and understanding of images. Lab work included. Prerequisite: ART 261 Introduction to Photography with a grade "B" or better or instructor's approval.

ART 266 Photography: Art and Technique
(4 class hrs/wk, 3 cr) F
Designed to bridge the gap between traditional photography and the newer techniques of electronic imaging. The student will explore hand-constructed imagery based on the photograph. Includes study of the relationships between hand-applied techniques and processes and contemporary images produced on the computer. This class is intended for the non-photographer as well as the photographer.

ART 280 CWE Fine Arts
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
An instructional program to give students experience in supervised employment related to fine arts. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

ART 281 Painting II
➢ *(6 class hrs/wk, 4 cr) W*
Explores visual expression on a two-dimensional surface. Uses oil or acrylic paints for spatial development of color, shape and surface. Drawing and design experience recommended. Prerequisite: ART 181 Introduction to Painting or instructor's approval. May be repeated for credit.

AS: AEROSPACE STUDIES

AS 111 The Air Force Today
(1 class hr/wk, 1 cr) F
Provides an overview of the Air Force Reserve Officer Training Program and the Air Force. Topics include officership, professional appearance, military customs and courtesies, Air Force Core Values, basic communication concepts, and identification and understanding of military chain-of-command. Leadership Lab (AS 120) is also a required course for all cadets and complements this course with followership experience.

AS 112 The Air Force Today
(1 class hr/wk, 1 cr) W
Provides an overview of the Air Force Reserve Officer Training Program and the Air Force. Topics include officership, professional appearance, military customs and courtesies, Air Force Core Values, basic communication concepts, and identification and understanding of military chain-of-command. Leadership Lab (AS 120) is also a required course for all cadets and complements this course with followership experience.

AS 113 The Air Force Today
(1 class hr/wk, 1 cr) Sp
Provides an overview of the Air Force Reserve Officer Training Program and the Air Force. Topics include officership, professional appearance, military customs and courtesies, Air Force Core Values, basic communication concepts, and identification and understanding of military chain-of-command. Leadership Lab (AS 120) is also a required course for all cadets and complements this course with followership experience.

AS 120 Aerospace Studies Leadership Laboratory
(2 class hr/wk, 1 cr)
Includes a study of Air Force customs and courtesies, drill and ceremonies, and military commands. Also studies the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers.

AS 211 Development of Air Power
(1 class hrs/wk, 1 cr)
Surveys the development of air power as well as introducing leadership and ethics. It is not a content course, but an introduction. The history of powered flight is still young and rich in excitement, glamour and mystery. The development of aviation is a multifaceted tale of technological breakthrough, politics, controversy and achievement. AS 211 examines the origins of military aviation and its development through World War II.

AS 212 Development of Air Power
(1 class hrs/wk, 1 cr)
Surveys the development of air power as well as introducing leadership and ethics. It is not a content course but an introduction. The theory of powered flight is still young and rich in excitement, glamour and mystery. The development of aviation is a multifaceted tale of technological breakthrough, politics, controversy and achievement. AS 212 examines the development of military aviation from the end of World War II through the Vietnam War.

AS 213 Development of Air Power
(1 class hrs/wk, 1 cr)
Examines the general aspects of air and space power through a historical perspective. Covers a time period from the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples are provided to extrapolate the development of Air Force capabilities (competencies), and missions (functions) to demonstrate the evolution of what has become today's USAF air and space power. Furthermore, the course examines several fundamental truths associated with war in the third dimension: e.g. Principles of War and Tenets of Air and Space Power. As a whole, this course provides cadets with a knowledge level understanding for the general element and employment of air and space power, from an institutional, doctrinal and historical perspective. In addition, students will continue to discuss the importance of the Air Force Core Values, through the use of operational examples and historical Air Force Leaders, and will continue to develop their communication skills.

AS 220 Aerospace Studies Leadership Lab
(2 class hrs/wk, 1 cr)
Includes a study of Air Force customs and courtesies, drill and ceremonies, and military commands. Also studies the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers.

AT: ANIMAL TECHNOLOGY

Courses with the AT prefix are career and technical courses that have a primary purpose of meeting requirements for the Associate of Applied Science degree. Four-year institutions may or may not accept them for transfer credit.

AT 147 Livestock Selection Techniques
(6 class hrs/wk, 4 cr) F
Concentrates on techniques, selection and comparative judging of beef, sheep and swine and intensive work on developing oral reasons and terminology. Designed for first-year students interested in livestock judging.

AT 149 Livestock Judging
(4 class hrs/wk, 4 cr) W
Provides an in-depth application of principles necessary for the successful comprehensive analysis of beef, sheep and swine. Prerequisite: Instructor approval.

AT 152 Livestock Fitting and Showing
(4 class hrs/wk, 2 cr) W
Provides students with practical, hands-on experience in modern fitting and showing techniques. Current showmanship styles and showing etiquette also are covered.

AT 153 Livestock Events Practicum
(4 class hrs/wk, 2 cr) Sp
Offers students the opportunity to help organize and participate in diverse activities such as the LBCC Steer and Heifer Show, FFA Livestock Judging Contest, Agricultural Sciences Awards Banquet, and showing at various jackpot shows.

AT 154 Equine Business Management
(3 class hrs/wk, 3 cr) Sp
Covers the basic concepts of equine business management. The decision-making process, tools of decision making, and types of business organization

are covered. Organizing, acquiring and managing land, labor and capital resources are taught. Students learn teamwork, cooperation and leadership skills through classroom activities and assignments.

AT 155 Equine Diseases/Parasites
(3 class hrs/wk, 3 cr) F
Covers the nature of equine diseases and parasites including common infectious and noninfectious diseases, diagnosis, treatment and prevention. Modern drugs and medications, immunology and basic microbiology are also included. Also covers common unsoundnesses of the foot and leg.

AT 156 Livestock Diseases and Parasites
(3 class hrs/wk, 3 cr) Sp
Covers the nature of livestock diseases caused by infectious and noninfectious organisms. Nutritional, metabolic and chemical-related diseases are studied as well as internal and external parasites. Emphasis is on diagnosis, control, treatment and prevention of economically important diseases and conditions. Note: Course is offered alternate years only. Offered Spring 2009.

AT 163 Schooling the Horse I
(7 class hrs/wk, 3 cr) W
Provides hands-on horse training experience. The student learns the fundamentals of horse training, including longeing, working in the round pen, driving, bitting, riding, rein aids, lateral work, and basic training techniques. Equipment, safety and horse "psychology" also are taught. Prerequisite: ANS 222 Young Horse Training or instructor's approval.

AT 164 Schooling the Horse II
(7 class hrs/wk, 3 cr) Sp
Provides hands-on horse training experience. The student learns the fundamentals of horse training, including advanced arena and trail work. Equipment, safety and horse "psychology" also are taught. Prerequisite: AT 163 Schooling the Horse I or instructor's approval.

AT 248 Advanced Livestock Selection
(6 class hrs/wk, 4 cr) F
Advanced course in developing judging skills and techniques. Emphasizes oral reasons, market and breed type and characteristics, and performance data. Prerequisite: AT 147 Livestock Selection Techniques.

AT 263 Schooling the Horse III
(7 class hrs/wk, 3 cr) W
Advanced training techniques for horses are emphasized. Introduces reining, dressage and jumping. Prerequisite: AT 164 Schooling the Horse II or instructor's approval.

AT 264 Schooling the Horse IV
(7 class hrs/wk, 3 cr) Sp
Advanced training techniques for horses are emphasized. Introduces reining, dressage and jumping. Prerequisite: AT 263 Schooling the Horse III.

AT 277A Horse Breeding Management
(2 class hrs/wk, 2 cr) W
Familiarizes students with all aspects of reproductive management of the horse. Reproductive physiology, estrous cycles, breeding management, mare and foal care, stallion handling and record keeping are covered. Prerequisite: ANS 222 Young Horse Training or instructor's approval.

AT 277B Horse Breeding Management Lab
(4.5 class hrs/wk, 2 cr) Sp
Exposes students to "hands on" aspects of breeding management including teasing, semen collection and processing, stallion handling, artificial insemination, foaling, foaling management and mare care. Prerequisite: AT 277A Horse Breeding Management.

AU: AUTOMOTIVE TECHNOLOGY

AU 3.295 Power Train Systems
(20 class hrs/wk, 1–10 cr) F
Studies the complete power train system, with emphasis on the theory, application and servicing of clutch systems, manual transmissions, transfer cases, drive lines, universal joints and differential assemblies. All students must pass online safety and pollution prevention tests to receive credit for this course. Prerequisites: Placement Test scores for RD 090 Strategies for Effective Reading and MTH 020 Basic Mathematics or equivalent.

AU 3.296 Steering, Suspension and Braking Systems
(20 class hrs/wk, 1–10 cr) Sp
Covers the theory of operation and repair for steering, suspension, alignment and braking systems. Diagnosis and service techniques are taught with the use of components and vehicles. Learning strategies include: multimedia presentations, discussion, research and lab practice. All students must pass online safety and pollution prevention tests to receive credit for this course. Prerequisites: Placement Test scores for RD 090 Strategies for Effective Reading and MTH 020 Basic Mathematics or equivalent.

AU 3.297 Electrical and Electronic Systems
(20 class hrs/wk, 1–10 cr) W
Introduces the theory, application and diagnosis of the electrical and electronic control systems for modern vehicles. Emphasis is placed on batteries, starting, charging, lighting, accessories and driver information systems. Preparation for ASE certification in electrical/electronic systems. All students must pass online safety and pollution prevention tests to receive credit for this course. Prerequisites: Placement Test scores for RD 090 Strategies for Effective Reading and MTH 020 Basic Mathematics or equivalent.

AU 3.298 Engine Performance
(20 class hrs/wk, 1–10 cr) Sp
Problem-solving course designed to develop knowledge and skills in auto tune-up. Emphasizes selection and use of equipment — including electrical test equipment, scan tools, the oscilloscope, emission test equipment and the dynamometer — to find malfunctions and make necessary repairs for optimum engine performance. Prerequisite: AU 3.297 Electrical/Electronic Systems or instructor's approval.

AU 3.299 Automotive Engines
(20 class hrs/wk, 1–10 cr) W
Develops knowledge and skills in understanding and rebuilding automotive engines. Emphasizes the use of equipment for repairing and reconditioning all engines back to OEM specifications. Prerequisite: Major in automotive technology with sophomore standing or instructor's approval.

AU 3.300 Automatic Transmissions and Transaxles
(20 class hrs/wk, 1–10 cr) F
Develops knowledge and skills in automatic transmissions/transaxles. Emphasizes selection and use of equipment including electrical test equipment, scan tools, transmission/transaxle rebuilding specialty tools, and transmission dynamometer to find malfunctions and make necessary repairs for correct shift timing, feel and operation. Prerequisite: AU 3.297 Electrical and Electronic Systems or instructor's approval.

AU 3.301 Automotive Service and Repair Practices
(7 class hrs/wk, 1–3 cr) F/W/Sp
Provides a simulated workplace environment to gain experience with the diagnosis and repair of vehicles. Comparing actual repair time to a professional flat-rate time standard will challenge your use of tools and service literature. Improves your performance as a professional automotive technician. All personal, vehicle and environmental safety precautions will be practiced. Prior experience or instruction for repair projects is required. Prerequisite: Major in automotive technology or instructor's approval.

AU 3.303 Mobile Air Conditioning and Comfort Systems I
(5 class hrs/wk, 3 cr) W
Theoretic principles of mobile heating and air conditioning systems with emphasis on design, function, adjustment, service and testing of components. Prerequisite: AU 3.297 Electrical/Electronic Systems or instructor's approval.

AU 3.304 Mobile Air Conditioning and Comfort Systems II
(5 class hrs/wk, 3 cr) Sp
Students learn theory and service practices in maintenance and repair of automotive comfort systems. Covers inspection, testing, repair and/or replacement of control units and computer control systems. Prerequisites: AU 3.303 Mobile Air Conditioning and Comfort Systems I or instructor's approval.

AU 3.312 Alternate Fuels
(2 class hrs/wk, 2 cr) Sp
Discuss the advantages of different fuels used in current automotive vehicles and look at what the future will bring. We will start by discussing hybrid vehicles then process to fuel cells. Prerequiste: AU 3.297 Electrical and Electronic Systems or vehicle electronic diagnostic experience.

AU 3.314 Introduction to Engine Performance
(4 hrs/wk, 3 cr) F
A required course for automotive technology students covering electrical, ignition and compression systems theory with an emphasis on the use of diagnostic equipment. Prerequisites: Placement Test scores for RD 090 Strategies for Effective Reading and MTH 020 Basic Mathematics or equivalent.

AU 3.315 Labscope Diagnostics
(4 hrs/wk, 3 cr) F
Learn to test computer sensors and actuators found on modern automobiles. We begin with learning to capture and understand a simple sensor waveform. By the end of the course you will learn to evaluate fuel and ignition systems using a lab scope. In this hybrid course, 50 percent of instruction occurs online. For maximum efficiency, practice at least four days per week with online activities and one day per week in the classroom/lab. Prerequisite: AU 3.297 Electrical and Electronic Systems or vehicle electrical diagnostic experience.

AU 3.321 Anti Lock Brakes Systems (ABS)
(4 class hrs/wk, 3 cr) F
Covers the theory of operation and repair for advanced brakes and antilock braking systems. Diagnosis and service techniques are taught with the use of components and vehicles. Participants will use service literature and tools to diagnose and repair the antilock braking systems found on modern vehicles. Prerequisites: AU 3.296 Steering, Suspension and Braking Systems and AU 3.297 Electrical and Electronic Systems or instructor's approval.

AU 3.643 Customer Service
(2 class hrs/wk, 2 cr) W
Develop customer communication skills, customer satisfaction skills, verbal and nonverbal communication skills in various technical job settings. Prerequisite: Placement test scores at RD090 Developing Reading Skills, MTH 020 Basic Mathematics, and instructor signature required.

BA: BUSINESS

BA 101 Introduction to Business
(4 class hrs/wk, 4 cr) F/W/Sp
Provides a general survey of the functional and interdependent areas of business management, marketing, accounting and finance, and management information systems. Includes: business trends, operation and management of a business, ethical challenges, environmental responsibility, change, global perspectives and the dynamic roles of management and staff. Incorporates aspects of team interaction and continuous process improvement. Provides the opportunity to explore the Internet and information technology relating to business operations. Prerequisite: WR 095 College Writing Fundamentals with a minimum "C" grade.

BA 206 Principles of Management
(3 class hrs/wk, 3 cr) F/W/Sp
An overview of the processes involved in managing a business, including business planning, organizing, controlling, staffing and leading. Covers various theories of management with emphasis on managing a business in the local, national or international marketplace. Prerequisite: BA 101 Introduction to Business with a minimum "C" grade.

BA 211 Principles of Accounting: Financial
(4 class hrs/wk, 4 cr) F/W/Sp/Su
Presents financial accounting concepts and the use of accounting information in decision making. Includes an overview of the accounting cycle. Prerequisite: MTH 095 Intermediate Algebra. Strongly recommend CIS 125 Introduction to Software Applications.

BA 213 Principles of Accounting: Managerial
(4 class hrs/wk, 4 cr) F/W/Sp/Su
Demonstrates the use of accounting information to meet organization goals. Methods of extracting accounting information for decision making, management of resources, planning, and product and service costing are covered. Prerequisite: BA 211 Principles of Accounting: Financial or equivalent.

BA 215 Survey of Accounting
(4 class hrs/wk, 4 cr) F/Sp
Introduces financial accounting techniques, measuring and recording transactions, preparing financial statements, managerial decision making, and planning and control devices, such as budgeting, cost accounting, capital budgeting and break-even analysis. Prerequisite: MTH 065 Elementary Algebra.

BA 217 Financial Accounting for Accounting Majors
(2 class hrs/wk, 2 cr) Sp
Presents a complete review of the accounting cycle, use of debits and credits in recording transactions, and preparing financial statements. Intended to prepare accounting majors, pursuing a baccalaureate degree, for the Intermediate Accounting sequence. May also be useful to others who desire a review course in accounting procedures. Prerequisite: BA 211 Principles of Accounting: Financial.

BA 221 Production and Operation Management
(3 class hrs/wk, 3 cr) W
Presents ideas in which managers and supervisors can implement strategic, tactical and operational planning in a business environment and its relationship to the success of business. Prerequisites: BA 101 Introduction to Business with a "C" or better, BA 206 Principles of Management, CIS 125 Introduction to Software Applications.

BA 222 Financial Management
(3 class hrs/wk, 3 cr) Sp
Covers topics dealing with financing a business, analysis of financial statements, working capital management, short- and long-term financial planning, budgeting and control. Prerequisite: BA 2.596 Professional Accounting II with a minimum "C" grade or BA 211 Principles of Accounting: Financial.

BA 223 Principles of Marketing
(3 class hrs/wk, 3 cr) W
Provides a general survey of the nature, significance and scope of marketing. Emphasizes customers (marketing analysis and strategy); business marketing decisions in promotion, distribution and pricing; and control of marketing programs. Prerequisite: BA 101 Introduction to Business with a minimum "C" grade or instructor's approval.

BA 224 Human Resource Management
(3 class hrs/wk, 3 cr) F/W/Sp
Explores the basics of human resource management within a culturally diverse workplace. Covers origins of cultural difference and how discrimination issues impact the workplace. Also covers current H.R. issues, such as workplace violence and drug abuse, equitable processes for selection and hiring, performance appraisal, compensation, staff planning, and job analysis.

BA 226 Business Law
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Introduces the framework of the law as it affects a business, including the origins of the American Legal system, how the law operates and how it is enforced. Covers legal regulation of business, including civil and criminal law, formation of contracts, employment law, environmental regulation, real estate and consumer rights.

BA 249 Retail Management
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Introduces students to retailing and provides an understanding of the types of businesses, strategies, operations, formats and environments through which retailing is carried out. The course takes a multi-disciplinary approach to consider the process and structure of retailing. Retailing topics to be covered will include: planning, research, consumers' behavior, store design, merchandising strategy, management strategy, promotional strategy and pricing strategy. The global dimensions of retailing as well as the relationship between retailing and our society will be stressed throughout the course.

BA 250 Small Business Management
(3 class hrs/wk, 3 cr) Sp
Presents focused information on small businesses and their importance in the growth of the economy. Prerequisite: BA 101 Introduction to Business with a minimum "C" grade, BA 271 Information Technology in Business and CIS 125 Introduction to Software Applications.

BA 256 Income Tax Accounting
(3 class hrs/wk, 3 cr) Sp
Introduces the basics of income tax accounting for individuals and business organizations. Develop an understanding of basic tax calculations and of how the Internal Revenue Code impacts individuals and businesses. Explore methods of incorporating and extracting income tax information from an organization's existing financial accounting system. Prerequisite: BA 2.596 Professional Accounting II with a minimum "C" grade.

BA 271 Information Technology in Business
(4 class hrs/wk, 3 cr) F/W/Sp/Su
Uses information technology as a personal productivity tool within a business environment. Covers the integration of various software packages, presentation graphics and online services. Team process is stressed throughout the course. Prerequisite: CIS 125 Introduction to Software Applications with a minimum "C" grade.

BA 275 Business Quantitative Methods
(4 class hrs/wk, 4 cr) F/W/Sp
Presents statistical analysis and quantitative tools for applied problem solving and making sound business decisions. Gives special attention to assembling statistical description, sampling, inference, regression, hypothesis testing, forecasting and decision theory. Prerequisite: CIS 125 Introduction to Software Applications, MTH 241 Calculus for Biological/Management/Social Science, MTH 245 Math for Biological/Management/Social Science, and sophomore standing.

BA 280B CWE Business Management
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to business management. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

BA 280C CWE Business Marketing
(3-42 class hrs/wk, 1-14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to business marketing. Students identify job performance objectives, work a specified number of hours during the term and attend related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

BA 285 Business Relations in a Global Economy
(4 class hrs/wk, 4 cr) F/W
Examines culture and cultural diversity and their impact on organizations. Examines issues such as motivation, communication, value development, prejudice and discrimination. Focuses on understanding how and why cultures develop differently, including the impact of economic and political influences on culture. Also focuses on helping students develop an understanding of their own culture and gain an appreciation for and understanding of other cultures.

BA 2.108 Customer Service
(3 class hrs/wk, 2 cr) As needed
Designed to help students develop the customer interaction skills needed in many work settings.

BA 2.127 Governmental Accounting
(3 class hrs/wk, 3 cr) F
Covers accounting theory and procedures for governmental and not-for-profit entities, including budgetary and expenditure control. Prerequisite: BA 211 Principles of Accounting: Financial or BA 2.532 Practical Accounting III with a minimum "C" grade.

BA 2.530 Practical Accounting I
(4 class hrs/wk, 4 cr) F/W/Sp
Covers the fundamental principles of double-entry accounting, general journals and ledgers, business forms, simple financial statements and the completion of the accounting cycle. Emphasizes cash receipts and payments, payroll accounting, purchases and sales.

BA 2.531 Practical Accounting II
(4 class hrs/wk, 4 cr) F/W/Sp
Continues BA 2.530 Practical Accounting I, with an explanation of the accounting cycle. Covers special journals, ledgers and business forms, including the voucher system. Emphasizes accounting for a partnership. Prerequisite: BA 2.530 Practical Accounting I.

BA 2.532 Practical Accounting III
(4 class hrs/wk, 4 cr) F/W/Sp
Third course in the Practical Accounting series. Includes entries requiring analysis and interpretation, unearned and accrued items, depreciation of assets, manufacturing accounting and other managerial accounting procedures. Prerequisite: BA 2.531 Practical Accounting II.

BA 2.534 Cost Accounting
(3 class hrs/wk, 3 cr) W
Relates theory to practical problems in analysis and control of material, labor and overhead costs in manufacturing. Emphasizes the job cost system. Prerequisite: BA 211 Principles of Accounting: Financial or BA 2.595 Professional Accounting I with a minimum "C" grade.

BA 2.535 Payroll Accounting
(3 class hrs/wk, 2 cr) W/Sp
Designed to reinforce and supplement payroll skills in both manual formats and computerized formats. Prerequisite: BA 2.530 Practical Accounting I, BA 211 Principles of Accounting: Financial, or instructor's approval.

BA 2.569 First Course in Computers
(3 class hrs/wk, 2 cr) F/W/Sp/Su
Designed to help a beginning computer user feel comfortable operating a personal computer and its peripherals.

BA 2.595 Professional Accounting I
(3 class hrs/wk, 3 cr) F
Provides an advanced study of accounting theory and practice for measurement of income and valuation of assets in financial statement presentation. Reviews accounting concepts and alternative approaches to various problems. Prerequisite: BA 2.532 Practical Accounting III with a minimum "C" grade or BA 211 Principles of Accounting: Financial and BA 213 Principles of Accounting.

BA 2.596 Professional Accounting II
(3 class hrs/wk, 3 cr) W
Continues the Professional Accounting sequence. Covers concepts and procedures of valuation for various types of assets and liabilities, including special problems related to investments; plant, property and equipment; consolidations; and corporate accounting. Prerequisite: BA 2.595 Professional Accounting I with a minimum "C" grade.

BA 2.597 Professional Accounting III
(3 class hrs/wk, 3 cr) Sp
Continues the Professional Accounting sequence. Emphasizes fund flow analysis, financial ratios, preparing statements from incomplete data, correcting errors in prior year statements and price level changes. Job search skills are emphasized also. Prerequisite: BA 2.596 Professional Accounting II with a minimum "C" grade.

BA 2.684 Computerized Accounting
(4 class hrs/wk, 3 cr) W/Sp
Provides hands-on computer experience in accounting applications, including general ledger, accounts receivable, accounts payable, payroll and financial statements. Emphasizes payroll accounting. Prerequisite: BA 2.531 Practical Accounting II or BA 211 Principles of Accounting: Financial.

BI: BIOLOGY

BI 4.210 Preparation for Anatomy and Physiology
(1 class hr/wk, 1 cr)
Combines instruction in study skills with basic biological content to prepare students for the three-term Anatomy and Physiology sequence. The course is appropriate for students planning to take the Anatomy and Physiology sequence in the near future.

BI 4.220 Survey of the Human Body
(3 class hr/wk, 3 cr)
Designed especially for students in the Dental Assisting Program, this course presents a survey of the human body from the tissue to the system level, including head and neck anatomy.

BI 101 General Biology
● *(5 class hrs/wk, 4 cr) F/W/Sp/Su*
An introductory lab science course intended for majors in disciplines other than the biological sciences. Topics presented include ecological principles, biodiversity, and impact of human activities on the environment. Different sections of this course may emphasize different themes as indicated by the subtitles. Examples include: Environmental Issues, Birds of Oregon, Oregon Ecology, Marine Biology, Marine Biology for Education Majors or General Biology. Students may select the theme that interests them most, but the course may be used only once to meet graduation requirements. Biology 101, 102, and 103 need not be taken in numerical order. Prerequisite: MTH 060 Introduction to Algebra. This course includes a laboratory component.

BI 102 General Biology
● *(5 class hrs/wk, 4 cr) F/W/Sp/Su*
An introductory lab science course intended for majors in disciplines other than the biological sciences. Provides non-science majors an introduction to scientific methods and the limitations of scientific methods. Introduces knowledge that extends from atoms and molecules to DNA analysis, including genetic analysis of human and plant traits, as well as providing an historical perspective on the evolution of major theories and ideas. Additionally the course is designed to help students discover the applications of science to their everyday lives, as well as provide elements of critical thinking. No previous science background is required. Students may select the theme that interests them most, but the course may be used only once to meet graduation requirements. Biology 101, 102 and 103 need not be taken in numerical order. Prerequisite: MTH 060 Introduction to Algebra. This course includes a laboratory component.

BI 103 General Biology
● *(5 class hrs/wk, 4 cr) F/W/Sp/Su*
An introductory lab science course intended for majors in disciplines other than the biological sciences. Topics presented include plant anatomy and physiology, human anatomy and physiology, and human diseases. Different sections of this course may emphasize different themes as indicated by the subtitles. Examples include: Nutrition and Health, Human Body, Plant and Animal Systems, and General Biology. Students may select the theme that interests them most, but the course may be used only once to meet graduation requirements. Biology 101, 102 and 103 need not be taken in numerical order. Prerequisite: MTH 060 Introduction to Algebra. This course includes a laboratory component.

BI 112 Cell Biology for Health Occupations
(4 class hrs/wk, 4 cr) F/W/Sp/Su
Introduces the Health Occupations student to the generalized human cell, including its structure, function, basic genetics and reproduction. The chemical and physical processes that affect the cell and its components will be examined throughout the course. This course covers the basic principles and vocabulary to prepare students for the study of human organ systems that occur in BI 231, BI 232 and BI 233 Human Anatomy and Physiology.

BI 200 Principles of Ecology: Field Biology
● *(5 class hrs/wk, 4 cr)*
Provides an introduction to the concepts of ecology. The broad concepts of ecology are emphasized in a field setting using natural ecosystems as a model. The classroom lecture component will cover concepts of ecology and diversity of life and the field component allows the surveying of the plants and animals in their interaction with the environment. Ecological concepts are examined in detail using student-collected field data. This course includes a laboratory component.

BI 211 Principles of Biology
● *(6 class hrs/wk, 4 cr) F*
One of three introductory courses intended for science majors: biochemistry, botany, zoology, forestry, microbiology, fisheries and wildlife, agriculture, pre-medical, pre-dental, pre-veterinary, pre-pharmacy, biology, etc. A survey of biodiversity — the major groups of organisms, their classification, and their evolutionary relationships. Biology 211, 212 and 213 need not be taken in numerical order. Corequisite or prerequisite: CH 121 College Chemistry or CH 221 General Chemistry. This course includes a laboratory component.

BI 212 Principles of Biology
● *(6 class hrs/wk, 4 cr) W*
One of three introductory courses intended for science majors: biochemistry, botany, zoology, forestry, microbiology, fisheries and wildlife, agriculture, premedical, pre-dental, pre-veterinary, pre-pharmacy, biology, etc. Focuses on cell structure and metabolism and the structure and function of plants and animals. Biology 211, 212 and 213 need not be taken in numerical order. Prerequisite: CH 121 College Chemistry or CH 221 General Chemistry. This course includes a laboratory component.

BI 213 Principles of Biology
● *(6 class hrs/wk, 4 cr) Sp*
One of three introductory courses intended for science majors: biochemistry, botany, zoology, forestry, microbiology, fisheries and wildlife, agriculture, premedical, pre-dental, pre-veterinary, pre-pharmacy, biology, etc. Focuses on genetics, evolution, ecology and behavior. Biology 211, 212 and 213 need not be taken in numerical order. Prerequisite: CH 121 College Chemistry or CH 221 General Chemistry. This course includes a laboratory component.

BI 214 Cell and Molecular Biology
- *(4 class hrs/wk, 4 cr) F*

This course provides an introduction to the concepts of cell and molecular biology centered on prokaryotic and eukaryotic organisms, and is intended for science majors heading for degrees in the Biological Sciences. Concepts to be covered in lecture include DNA replication, transcription, translation, protein sorting and modification, cellular metabolism, structures of the cell, cell signaling, and the cell cycle. Prerequisites: BI 211, BI 212, BI 213, CH 121 College Chemistry or CH 221 General Chemistry.

BI 231 Human Anatomy and Physiology
- *(6 class hrs/wk, 5 cr) F/W*

The first term of an introduction to the structure and function of the human body. This course is of particular benefit to students in the health professions and physical education, but is valuable to others interested in the anatomy and physiology of the body. Focuses on the structure and function of the cell, basic biochemistry, tissues, skin, skeleton and muscles. Prerequisites: MTH 065 Elementary Algebra; BI 112 Cell Biology for Health Occupations with a grade "C" or better or BI 212 Principles of Biology with a grade "C" or better.

Students who are currently enrolled in BI 231 or BI 232 will be allowed to register for the next sequence course (BI 232 or BI 233) before priority registration for continuing students. Current BI 231 and BI 232 faculty will announce the day, time and restrictions for this special registration day. Students will be permitted to register for only the Anatomy and Physiology class at this time. All holds on student accounts must be resolved prior to this registration day. Students must earn a "C" or better in BI 231 or BI 232 to move to the next sequence course. The week after grades are submitted, students who earned less than a "C" in BI 232 or BI 233 will be dropped from the pre-registered sequence course.

BI 232 Human Anatomy and Physiology
- *(6 class hrs/wk, 5 cr) W/Sp*

The second term of an introduction to the structure and function of the human body. This course is of particular benefit to students in the health professions and physical education, but is valuable to others interested in the anatomy and physiology of the body. Focuses on the nervous system, endocrine system, and cardiovascular system. Prerequisite: BI 231 Human Anatomy and Physiology.

Students who are currently enrolled in BI 231 or BI 232 will be allowed to register for the next sequence course (BI 232 or BI 233) before priority registration for continuing students. Current BI 231 and BI 232 faculty will announce the day, time and restrictions for this special registration day. Students will be permitted to register for only the Anatomy and Physiology class at this time. All holds on student accounts must be resolved prior to this registration day. Students must earn a "C" or better in BI 231 or BI 232 to move to the next sequence course. The week after grades are submitted, students who earned less than a "C" in BI 232 or BI 233 will be dropped from the pre-registered sequence course.

BI 233 Human Anatomy and Physiology
- *(6 class hrs/wk, 5 cr) Sp/F*

The third term of an introduction to the structure and function of the human body. This course is of particular benefit to students in the health professions and physical education, but is valuable to others interested in the anatomy and physiology of the body. Focuses on the lymphatic system, respiratory system, urinary system, fluid and electrolyte balance, digestive system and reproductive system. Prerequisite: BI 232 Human Anatomy and Physiology. This course includes a laboratory component.

BI 234 Microbiology
- *(7 class hrs/wk, 4 cr) F/W/Sp/Su*

An introductory lecture/laboratory course covering all microbial life, with emphasis on bacterial forms. We will focus on examining bacterial cell structure, metabolism, microbial genetics and growth. We also will investigate host-pathogen relationships that lead to disease and health. In the laboratory, students learn basic microscope and culture procedures and will investigate the occurrence and behavior of microorganisms in our environment. This course includes a laboratory component.

BI 280 CWE Biology
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su

Gives students practical experience in supervised employment related to biology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

CA: CULINARY ARTS

CA 8.301 Culinary Arts Career Planning
(2 class hrs/wk, 1 cr)

Prepares the student for entering the culinary work force. Students create a résumé for use in a mock interview. They prepare a five-year career plan and explore different career opportunities using resources such as the Internet, industry periodicals, and employment department career information.

CA 8.309 Purchasing for Chefs
(2 class hrs/wk, 2 cr) W

Through lecture, role-playing, research and written assignments, students learn to write specifications for projects and skills needed for working with purveyors. All reports, menus and projects will be completed using a word processing program. Students will also learn standard storeroom procedures.

CA 8.310 Culinary Arts Practicum I
(24 class hrs/wk, 7 cr) F

Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Prerequisites: CA 8.337 Stations and Tools; CA 8.336 Food Service Safety and Sanitation; CA 8.345 Service Techniques.

CA 8.311 Culinary Arts Practicum II
(24 class hrs/wk, 8 cr) W

Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Prerequisite: CA 8.310 Culinary Arts Practicum I.

CA 8.312 Culinary Arts Practicum III
(24 class hrs/wk, 8 cr) Sp

Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Prerequisite: CA 8.311 Culinary Arts Practicum II.

CA 8.321 Advanced Cooking Management I
(20 class hrs/wk, 7 cr) F

From the fundamental skills attained in Practicum I, II & III, students refine and advance their culinary skill to include a la carte, front line cookery, advanced baking and pastry, advanced garde manger and dining room management skills. Students are directly involved in running a "working restaurant," giving them a realistic experience while honing work habits and awareness of production demands. Prerequisite: "C" or higher grade in CA 8.312 Culinary Arts Practicum III.

CA 8.322 Advanced Cooking Management II
(20 class hrs/wk, 7 cr) W

From the fundamental skills attained in Practicum I, II & III, students refine and advance their culinary skill to include a la carte, front line cookery,

advanced baking and pastry, advanced garde manger and dining room management skills. Students are directly involved in running a "working restaurant," giving them a realistic experience while honing work habits and awareness of production demands. Prerequisite: "C" or higher grade in CA 8.312 Culinary Arts Practicum III and CA 8.321 Advanced Cooking Management I.

CA 8.323 Advanced Cooking Management III
(20 class hrs/wk, 7 cr) Sp
From the fundamental skills attained in Practicum I, II & III, students refine and advance their culinary skill to include a la carte, front line cookery, advanced baking and pastry, advanced garde manger and dining room management skills. Students are directly involved in running a "working restaurant," giving them a realistic experience while honing work habits and awareness of production demands. Prerequisites: "C" or higher grade in CA 8.322 Advanced Cooking Management II.

CA 8.336 Food Service Safety and Sanitation
(10 class hrs/wk, 1 cr) F
Helps students gain an awareness of the hazards of poor sanitation and safety practices and how to properly address those issues. Through lecture, assigned reading and case study, students learn the essentials of food handling, proper personal hygiene, equipment handling and facilities management as they relate to the food service industry.

CA 8.337 Stations, Tools and Culinary Techniques
(20 class hrs/wk, 3 cr) F
A program orientation course providing students a thorough first exposure to the history of food service; the identification and use of common ingredients; professional work habits and attitudes; and to a basic understanding of equipment, knife handling techniques and culinary terms and methods. Note: Two-week class.

CA 8.341 Soups and Sauces
(8 class hrs/wk, 3 cr) W
Students study and practice the art of classical and modern sauce and soup making from varied national and ethnic cuisines. Hands-on lab activities stress both large scale and a la carte production techniques.

CA 8.345 Service Techniques
(10 class hrs/wk, 1 cr) F
Teaches the skills of dining room service by a combination of lecture, demonstrations and role playing. In addition, students learn the fundamentals of building customer relations.

CA 8.346 Culinary Fundamentals
(3 class hrs/wk, 3 cr) F
Students learn the fundamentals of classical culinary techniques, sanitation and safety through lectures, demonstrations and hands-on projects. Proper use of tools, equipment, flavoring ingredients and garnish will be covered.

CA 8.347 Beverage Server Training
(1 class hr/wk 1 cr)
Provides the student with an understanding of alcohol as a drug and its effects on the body, behavior and, in particular, on the driving skills of those who consume alcohol. Also helps equip students with skills and strategies for dealing with the day-to-day challenges of serving alcohol in a commercial establishment.

CA 8.348 Wine Analysis and Theory
(3 class hrs/wk, 3 cr) W
Students learn the skills of tasting and analyzing wine. Traditional terminology, tasting techniques and methods are used. Components of wine, production techniques, wine regions, and grape varieties are covered with emphasis on local wines and wine industry. Must be 21 years of age.

CA 8.349 Cooking with Wine (Sauces)
(3 class hrs/wk, 3 cr) W
Explore the use of wine in the preparation of sauces. Learn technology skills by preparing a spreadsheet containing an inventory of tasting notes and preparing a paper using a word processing program. Includes experimentation and tasting in a hands-on environment. Also learn to identify the character of sauces and match them with complementary wines. Must be 21 years of age. Prerequisite: CA 8.346 Culinary Fundamentals.

CA 8.350 Banquets and Buffet Lab A
(3 class hrs/wk, 1 cr) F/W/Sp
Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA 8.351 Banquets and Buffet Lab B
(4 class hrs/wk, 2 cr) F/W/Sp
Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA 8.352 Banquets and Buffet Lab C
(3 class hrs/wk, 1 cr) F/W/Sp
Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA 8.353 Banquets and Buffet Lab D
(4 class hrs/wk, 2 cr) F/W/Sp
Provides students the opportunity to participate in actual banquet and buffet functions, from small caterings to very large banquets. Set up, production load, banquet and catering plans, service techniques, organizational skills, costs and breakdown systems are presented.

CA 8.354 Banquets and Buffet Lab E
(3 class hrs/wk, 1 cr) F
Covers the planning and execution of a banquet, buffet or catering as a member of a team. Students evaluate food for taste arrangement, adherence to theme, cost, etc. Students learn set-up, service and clean up procedures for a large food function. Prerequisite: Instructor approval.

CA 8.355 Banquet/Buffet Planning
(2 class hrs/wk, 2 cr) W
To be taken in conjunction with CA 8.352 and CA 8.353 Banquet and Buffet Lab C and D. Students participate in the planning and execution of winter and spring term banquets, food show and other special events. Prerequisites: CA 8.350 Banquets and Buffet Lab A; Banquets and Buffet Lab B.

CA 8.360 Cooking with Wine (Entree)
(3 class hrs/wk, 3 cr) Sp
Students explore the use of wine in the preparation of main entrees. Students learn through experimentation and tasting in a hands-on environment. Emphasis placed on identifying the distinguishing characteristics of foods and dishes and matching them with complementary wines. Must be 21 years of age. Prerequisite: CA 8.346 Culinary Fundamentals and CA 8.349 Cooking with Wine (Sauces).

CA 8.361 Food and Wine Pairing
(4 class hrs/wk, 4 cr) F
Students apply their knowledge of food and wine characteristics to the pairing of food and wine in a series of tastings. Generally accepted standards for pairing food and wine are presented. Students learn how to pair wines with new food trends. Particular emphasis is placed on varietal wines. Must be 21 years of age.

CA 8.364 Banquet and Buffet Sommelier Lab
(4 class hrs/wk, 2 cr) Sp
Provides students the opportunity to participate in actual banquet and buffet functions. Students choose wines to complement the banquet menu and then present and serve the wine(s) at the actual banquet. Emphasizes how to describe, open and pour wine. Must be 21 years of age.

CA 8.368 Creating the Menu
(2.5 class hrs/wk, 2 cr) F
Students are expected to create a menu and support documentation for a restaurant or other food operation using the skills and concepts presented in this class. Throughout the term students will work on components of the final project. Prerequisite: CA 8.373 Costing.

CA 8.373 Costing
(2.5 class hrs/wk, 1 cr) W
Teaches theory and practice of determining food cost for restaurant and institutional cooking.

CA 8.409 Meats
(6 class hrs/wk, 3 cr) F
Addresses fabricating primal and sub-primal cuts of beef, pork and lamb for profitable use in restaurants. Includes knife techniques, portion cutting, and safe and sanitary meat handling and storage. Proper cooking procedures and techniques also are presented. Handling and tasting of meat products is an integral and required part of this class. Prerequisite: CA 8.312 Culinary Arts Practicum III.

CA 8.414 Presentation/Garde Manger
(4 class hrs/wk, 2 cr) Sp
Traditional and contemporary presentation techniques are presented and practiced as part of this hands-on class. Charcuterie, hors d'oeuvres, appetizers and patés are explored.

CA 8.418 Beverage Operations and Services
(4 class hrs/wk, 2 cr) F
Covers the art and science of beverage production, classifications, standards of identity, taste and characteristics, service and merchandising, costing and controls, standard glassware, sanitation, and federal and state ordinances.

CA 8.419 Nutrition and Special Diets
(2 class hrs/wk, 1 cr) F
Practical use of food and menus to assure a proper balance of both macronutrients (carbohydrates, fats, and proteins) and micronutrients. Meeting nutritional needs through the use of "new" and varied products is stressed. Main emphasis is placed on hands-on activities to expand students' ability to identify and use a variety of ingredients.

CA 8.421 International Cuisine
(4 class hrs/wk, 2 cr) Sp
Through lecture, projects, research and demonstration, students learn about the styles and flavoring components of a variety of national and regional cuisines. All reports, menus and projects will be completed using a word processing program.

CA 101 Culinary Arts Practicum I
(24 class hrs/wk, 7 cr) F
Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Prerequisites: CA 111 Food Service Safety and Sanitation; CA 112 Stations, Tools and Culinary Techniques; and CA 113 Service Techniques.

CA 102 Culinary Arts Practicum II
(24 class hrs/wk, 8 cr) W
Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Prerequisite: CA 101 Culinary Arts Practicum I.

CA 103 Culinary Arts Practicum III
(24 class hrs/wk, 8 cr) Sp
Practicum classes I, II, and III provide a comprehensive hands-on sequence designed to develop, through practice, the basic skills and attitudes necessary for a successful career in Food Service. Stations include Baking, Pantry, Garde Manger, Soups and Sauces, Entree Cookery, Vegetable Cookery, Healthy and Natural Foods, and Dining Room. High professional standards and attitudes are stressed. These practicums are designed for the serious career-oriented individual. Prerequisite: CA 102 Culinary Arts Practicum II.

CA 111 Food Service Safety and Sanitation
(10 class hrs/wk, 1 cr) F
Helps students gain an awareness of the hazards of poor sanitation and safety practices and how to properly address those issues. Through lecture, assigned reading and case study, students learn the essentials of food handling, proper personal hygiene, equipment handling and facilities management as they relate to the food service industry.

CA 112 Stations, Tools and Culinary Techniques
(20 class hrs/wk, 3 cr) F
A program orientation course providing students a thorough first exposure to the history of food service; the identification and use of common ingredients; professional work habits and attitudes; and to a basic understanding of equipment, knife handling techniques and culinary terms and methods. Note: Two-week class.

CA 113 Service Techniques
(10 class hrs/wk, 1 cr) F
Teaches the skills of dining room service by a combination of lecture, demonstrations and role playing. In addition, students learn the fundamentals of building customer relations.

CA 201 Culinary Arts Career Planning
(2 class hours/ 1 credit)
Prepare for entering the Culinary work force. Organize a search for work including preparation of a resume for use in a mock interview, writing a letter of application, and completing a standard application form. Includes preparing a five year career plan and exploring different career opportunities using resources such as the Internet, industry periodicals, and employment department career information.

CE: CIVIL ENGINEERING TECHNOLOGY

CE 6.422 Introduction to GIS
(3 class hrs/wk, 2 cr) Sp
An introductory course in geographic information systems (GIS). Uses ArcGIS software to display and work with spatial data, work with attributes, query databases, and present data. Prerequisite: Knowledge of computer and Windows operation.

CE 6.444 Civil Design Lab
(2 class hrs/wk, 1 cr) F
A course in civil engineering design. Emphasizes the design of roads, waterlines, sanitary sewer lines and storm drains. Prerequisites: EG 4.456 Civil Drafting Lab; WW 6.167 Water Distribution and Collections Lab.

CE 6.488 Advanced Surveying and Land Development
(6 class hrs/wk, 4 cr) F
Advanced course in surveying and land development. Emphasizes land and construction surveying and the process of developing land. Prerequisite: EG 4.456 Civil Drafting Lab; CEM 263 Plane Surveying.

CEM: CONSTRUCTION ENGINEERING MANAGEMENT

CEM 263 Plane Surveying
(4 class hrs/wk, 3 cr) Sp
Basic course in surveying techniques. Includes distance measuring, leveling, cross sectioning, traversing, topographic surveying, use of surveying instruments and office procedures. Prerequisite: MTH 111 College Algebra.

CG: COLLEGE SKILLS

CG 111 College Learning and Study Skills
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Assists students in developing the academic strategies necessary for being successful in a community college or four-year college. Teaches skills for learning from lectures and textbooks, applying memory strategies, preparing for and taking tests, and managing student responsibilities. Prerequisite: Appropriate reading competence as indicated by the Computerized Placement Test.

CH: CHEMISTRY

CH 121 College Chemistry
● *(7 class hrs/wk, 5 cr) F*
The first of a three-term sequence for students in science-related fields, including health occupations, agriculture, animal science, fisheries and wildlife, life sciences, education, general science and earth sciences. Topics in CH 121, 122 and 123 include: measurement; chemical calculations; chemical formulas and equations; chemical reactions; atomic structure; periodicity; ionic and covalent bonding; molecular geometry; properties of solids, liquids and gases; solutions; chemical equilibrium; acids and bases; solubility; thermodynamics; electrochemistry; nuclear chemistry and organic chemistry; thermochemistry; and rates of reactions. Prerequisites: MTH 065 Elementary Algebra or equivalent; high school physical science or equivalent. All prerequisites must be completed with a "C" or better. This course includes a laboratory component.

CH 122 College Chemistry
● *(7 class hrs/wk, 5 cr) W*
The second of a three-term sequence for students in science-related fields, including health occupations, agriculture, animal science, fisheries and wildlife, life sciences, education, general science and earth sciences. Topics in CH 121, 122 and 123 include: measurement; chemical calculations; chemical formulas and equations; chemical reactions; atomic structure; periodicity; ionic and covalent bonding; molecular geometry; properties of solids, liquids and gases; solutions; chemical equilibrium; acids and bases; solubility; thermodynamics; electrochemistry; nuclear chemistry and organic chemistry; thermochemistry; and rates of reactions. Prerequisites: MTH 095 Intermediate Algebra and CH 121 College Chemistry. All prerequisites must be completed with a "C" or better. This course includes a laboratory component.

CH 123 College Chemistry
● *(7 class hrs/wk, 5 cr) Sp*
The third of a three-term sequence for students in science-related fields, including health occupations, agriculture, animal science, fisheries and wildlife, life sciences, education, general science and earth sciences. Topics in CH 121, 122 and 123 include: measurement; chemical calculations; chemical formulas and equations; chemical reactions; atomic structure; periodicity; ionic and covalent bonding; molecular geometry; properties of solids, liquids and gases; solutions; chemical equilibrium; acids and bases; solubility; thermodynamics; electrochemistry; nuclear chemistry and organic chemistry; thermochemistry; and rates of reactions. Prerequisite: CH 122 College Chemistry with a grade of "C" or better. This course includes a laboratory component.

CH 150 Preparatory Chemistry
(3 class hrs/wk, 3 cr) As needed
Introduces chemistry for science, engineering and the professional health occupations. Designed to meet the prerequisite for CH 221, this fast-moving curriculum covers the basic tools offered in a one-year high school chemistry course. A good selection for students who need a refresher in chemistry or have little or no background in chemistry and need to meet the prerequisite for CH 221. Topics emphasized include chemical calculations and problem-solving techniques encountered in both inorganic and organic chemistry. There is no lab with CH 150. Corequisite: MTH 095 Intermediate Algebra.

CH 199 Special Studies
● *(2–6 class hrs/wk, 1–3 cr) As needed*
Allows a student to investigate, with supervision from a faculty member, a topic of his/her interest at an individualized pace. Credits and projects are determined by the instructor and student.

CH 201 Chemistry for Engineering Majors I
● *(7 class hrs/wk, 5 cr) W*
The first of a two-term sequence designed specifically to provide engineering majors a fundamental understanding of chemical reactions and scientific measurement. This course will introduce students to principles, laws and equations that govern our understanding of chemical combination. Prerequisites: CH 150 Preparatory Chemistry or CH 121 College Chemistry or high school chemistry or equivalent; MTH 095 Intermediate Algebra. Pre- or corequisite: MTH 111 College Algebra. This course includes a laboratory component.

CH 202 Chemistry for Engineering Majors II
● *(7 class hrs/wk, 5 cr) Sp*
The second of a two-term sequence designed specifically to provide engineering majors with a fundamental understanding of chemical reactions and scientific measurement. This course will introduce students to principles, laws and equations that govern our understanding of chemical combination. Prerequisites: CH 201 Chemistry for Engineering Majors I, MTH 111 College Algebra with a grade of "C" or better. This course includes a laboratory component.

CH 221 General Chemistry
● *(7 class hrs/wk, 5 cr) F*
The first of a three-term sequence for students in science, engineering and the professional health programs. Topics include measurement, chemical calculations, chemical formulas and equations, chemical reactions, gas laws and thermochemistry. Prerequisite: Completion of high school chemistry with a grade of "C" or better, or CH 150 Preparatory Chemistry with a grade of "C" or better, or CH 121 College Chemistry with a grade of "C" or better; MTH 095 Intermediate Algebra. Corequisite: MTH 111 College Algebra. This course includes a laboratory component.

CH 222 General Chemistry
● *(7 class hrs/wk, 5 cr) W*
The second term of a three-term sequence for students in science, engineering and the professional health programs. Topics include quantum theory and atomic structure, molecular geometry, states of matter (solids, liquids and gases), solutions and organic compounds. Prerequisites: CH 221: General Chemistry with a grade of "C" or better; MTH 111 College Algebra with a grade of "C" or better. This course includes a laboratory component.

CH 223 General Chemistry
- *(7 class hrs/wk, 5 cr) Sp*

The third term of a three-term sequence for students in science, engineering and the professional health programs. Topics include rates of reactions, chemical equilibrium, acids and bases, solubility and complex ion formation, thermodynamics, electrochemistry, and an introduction to organic chemistry. Prerequisite: CH 222 General Chemistry with a grade of "C" or better; MTH 111 College Algebra with a grade of "C" or better. This course includes a laboratory component.

CH 241 Organic Chemistry
- *(6 class hrs/wk, 4 cr) F*

The first term of a three-term sequence for students in the sciences and professional health programs. Topics include nomenclature, structural bonding, stereochemistry, reactivity and synthesis of alkanes, alkenes and alkynes. Prerequisite: CH 121, 122 and 123 College Chemistry or CH 221, 222 and 223 General Chemistry with grades of "C" or better. This course includes a laboratory component.

CH 242 Organic Chemistry
- *(6 class hrs/wk, 4 cr) W*

The second of a three-term sequence for students in the sciences and professional health programs. Topics include nucleophillic substitution and elimination reactions, spectroscopy and aromaticity. Prerequisite: CH 241 Organic Chemistry with a grade of "C" or better. This course includes a laboratory component.

CH 243 Organic Chemistry
- *(6 class hrs/wk, 4 cr) Sp*

The third term of a three-term sequence for students in the sciences and professional health programs. Topics include properties and reactions of phenols, aryl halides, aldehydes, ketones, carboxylic acids, and amines, and oxidation and reduction in organic chemistry. Prerequisite: CH 242 Organic Chemistry with a grade of "C" or better. Note: When the Organic Chemistry courses CH 241, 242, 243 are transferred to OSU, the student normally receives lower-division credit. To receive upper-division credit (300 level), the student must perform at an adequate level on the ACS organic chemistry exam. This course includes a laboratory component.

CH 280 CWE Chemistry
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su

Designed to give students practical experience through supervised employment related to chemistry. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

CH 299 Special Studies
(2–6 class hrs/wk, 1–3 cr) As needed

Allows a student to investigate, with supervision from a faculty member, a topic of his or her interest at an individualized pace. Credits and projects are determined by the instructor and student.

CIS: COMPUTER INFORMATION SYSTEMS

Courses with the CIS prefix are career and technical courses that have a primary purpose of meeting requirements for the Associate of Applied Science degree. Four-year institutions may or may not accept them for transfer credit.

CIS 125 Introduction to Software Applications
(4 class hrs/wk, 3 cr) F/W/Sp/Su

Learn and use the basics of operating system and application software programs—primarily Windows—to manage files, directories, and desktop functions; Internet and e-mail; word processing for formatting business correspondence, creating tables, multipage documents, graphical elements, and spreadsheet software for basic functions and formulas, charts and data calculations. Prerequisite: MTH 060 Introduction to Algebra with a minimum "C" grade.

CIS 125D Introduction to Databases
(3 class hrs/wk, 1 cr) F/W/Sp

Introduces database software and how it is utilized in business and personal applications to organize information, produce reports, prepare data entry forms, and store data in retrievable format using filters and queries available in the software. Note: Five-week course. Prerequisite: Completion of CIS 125O Introduction to Windows with a minimum "C" grade or equivalent computer experience as determined by a Computer Systems Department advisor.

CIS 125O Introduction to Windows
(3 class hrs/wk, 1 cr) F/W/Sp/Su

Provides an introduction to the Windows operating system. Covers basic concepts for using menus, dialog boxes, and the help system; working with applications and documents; Internet and e-mail; and managing files and folders. Discusses ways to customize the Windows environment and describes a few "built in" accessories.

CIS 125P Introduction to Presentations
(3 class hrs/wk, 1 cr) W/Sp

Learn to make and give effective electronic slide show presentations using presentation software. Emphasizes designing effective presentation slides using the tools available through this program. Students prepare a slide show and present to the class. Note: Five-week course. Prerequisite: CIS 125O Introduction to Windows with a minimum "C" grade.

CIS 125S Introduction to Spreadsheets
(3 class hrs/wk, 1 cr) F/W/Sp/Su

Introduces spreadsheet software and how it is utilized in business and personal applications. Covers basic worksheet concepts, such as formatting, formulas and charts. Note: Five-week course. Prerequisite: CIS 125O Introduction to Windows with a minimum "C" grade; MTH 060 Introduction to Algebra with a minimum "C" grade or OA 2.515 Business Math with a minimum "C" grade.

CIS 135S Advanced Spreadsheets
(4 class hrs/wk, 3 cr) W/Sp

Provides advanced techniques and features of spreadsheet software for business applications and financial analysis. Uses the applications expected in the business environment, including but not limited to an operating budget, and following a company's stock price and other information. New concepts to be introduced include break-even analysis, financial projections, statistical analysis, and data and pivot tables to summarize data. Prerequisite: CIS 125S Introduction to Spreadsheets with a minimum "C" grade or CIS 125 Introduction to Software Applications with a minimum "C" grade.

CIS 151 Networking Essentials
(7 class hrs/wk, 4 cr) F

The first course of a four-part sequence in a Cisco curriculum directed toward the Cisco Certified Network Associate certification (CCNA). Provides students with classroom and laboratory experience in current networking technology, and includes network terminology, protocols, network standards, LANs, WANs, OSI model, cabling, cabling tools, safety, network topology, and IP addressing. Corequisites: CIS 125 Introduction to Software Applications with a minimum "C" grade or equivalent computer experience as determined by a Computer Systems advisor, and MTH 095 Intermediate Algebra.

CIS 152 Network Router Configurations
(7 class hrs/wk, 4 cr) W

The second course of a four-part sequence in a Cisco curriculum directed toward the Cisco Certified Network Associate certification (CCNA). Emphasizes experience in current networking technology, and includes network terminology and protocols. Topics include LANs network topology, IP addressing, routers, router programming, and application of routing and router protocols. Prerequisite: CIS 151 Networking Essentials with a minimum "C" grade.

CIS 153 LANs and Internetwork Design
(7 class hrs/wk, 4 cr) Sp
The third course of a four-part sequence in a Cisco curriculum directed toward the Cisco Certified Network Associate certification (CCNA). Emphasizes experience in current networking technology that includes LAN segmentation, using bridges, routers, and switches to control network traffic. Includes advanced router configuration, LAN switching theory, and VLANs. Note: Five-week course. Prerequisite: CIS 152 Network Router Configurations with a minimum "C" grade.

CIS 154 WAN Design
(7 class hrs/wk, 4 cr) Sp
The fourth course of a four-part sequence in a Cisco curriculum directed toward the Cisco Certified Network Associate certification (CCNA). Introduces WAN services. Covers ISDN, ATM, frame relay, and dial-up services. Note: Five-week course. Prerequisite: CIS 153 LANs and Internetwork Design with a minimum "C" grade.

CIS 195 Web Development I
(5 class hrs/wk, 4 cr) F
Uses Web design technology to create a Web site. Includes animated GIF creation, frames, tables, CSS, DHTML, and introduction to XML and JavaScript. Use various software packages, such as Web page browsers and editors, HTML editors, image and graphic software, and FTP software. Prerequisite: BA 271 Information Technology in Business with a minimum "C" grade or equivalent Web publishing experience as determined by a Computer Systems Department advisor.

CIS 295 Web Development II
(5 class hrs/wk, 4 cr) SP
Use more advanced Web design software to develop successful Web sites. Use various Web page and multimedia tools, image and graphic software, especially MacroMedia's Dreamweaver and Fireworks. Prerequisite: CS 133J JavaScript with a minimum "C" grade or equivalent Web-publishing experience as determined by instructor.

CJ: CRIMINAL JUSTICE

CJ 100 Survey of Criminal Justice Systems
■ *(3 class hrs/wk, 3 cr) As needed*
Introduction to how the criminal justice system operates. Explores how someone enters the criminal justice system and how the various subcomponents of this system operate together.

CJ 101 Introduction to Criminology
■ *(3 class hrs/wk, 3 cr) As needed*
Presents an overview of criminology, research, data gathering and analysis. Introduces theoretical perspectives on the nature of crime, criminals and victimization and identifies current trends and patterns of crime. Development and conceptualization of crime, including historical perspectives, social and legal definition and classifications. Offered as needed.

CJ 110 Introduction to Law Enforcement
■ *(3 class hrs/wk, 3 cr) As needed*
Introduces students to the law enforcement profession. The historical development of policing in America, the police role, and the various branches and divisions of law enforcement are examined, as well as corruption and stress. The social dimensions of policing in America also are examined so students will know the hazards of the profession, yet gain a broader perspective of the professional requirements in their chosen field.

CJ 112 Police Field Operations
■ *(3 class hrs/wk, 3 cr) As needed*
Introduces the nature and purpose of patrol activities, including routine and emergency procedures, types of patrol, arrest procedures and field interviews. Covers equipment, technology and vehicle operation. Emphasizes report documentation, courtroom testimony and police tactical communications.

CJ 120 Introduction to the Judicial Process
■ *(3 class hrs/wk, 3 cr) As needed*
Surveys the process of justice from arrest through rehabilitation; the jurisdiction of city, county, state and federal police agencies, and the constitutional rights of individuals using the medium of the mock trial. Students study, investigate and present a criminal trial, acting as "lawyers", witnesses and investigators.

CJ 130 Introduction to Corrections
■ *(3 class hrs/wk, 3 cr) As needed*
Examines the total correctional process from law enforcement through administration of justice, probation, prisons and correctional institutions, and parole. History and philosophy oriented.

CJ 132 Introduction to Parole and Probation
(3 class hrs/wk, 3 cr) As needed
Introduces the use of parole and probation as a means of controlling felons. Covers contemporary functioning of parole and probation agencies.

CJ 140 Criminalities
(3 class hrs/wk, 3 cr)
Criminalistics, also called "forensic science," applies the knowledge and technology of science to the solution of crime. This course includes a review of the principles and techniques used to collect and analyze physical evidence found at a crime scene, fingerprints, voice and bodily fluid identification, forensic entomology and autopsies. Also includes an examination of the legal and ethical issues associated with forensic work.

CJ 198 Research Topics
(1 class hr/wk, 1 cr) As needed
Students examine in depth a selected criminal justice topic. Develops skills in independent research. Corequisite: WR 123 English Composition: Research Paper.

CJ 201 Juvenile Delinquency
■ *(3 class hrs/wk, 3 cr) As needed*
Explores delinquency in American society. Theories, families, gangs, and a study of youth violence help provide students with an understanding of the social and institutional context of delinquency. Students work cooperatively as team members to teach others in the class about a research topic related to a juvenile delinquency issue.

CJ 202 Violence and Aggression
■ *(3 class hrs/wk, 3 cr) As needed*
Explores and analyzes violence and aggression from biological, psychological and sociological perspectives. Includes topics such as: homicide, suicide, rape, assault, mob violence, terrorism, violence within the family and related phenomenon, which are presented from a human relations perspective.

CJ 203 Crisis Intervention Seminar
(1 class hrs/wk, 1 cr) As needed
An overview of the techniques and approaches to crisis intervention for entry-level criminal justice professions. Covers initial intervention, defusing and assessment, resolution and/or referral, with emphasis on safety. Includes personal effectiveness, recognition of threat levels, voluntary compliance, verbal and nonverbal communication, active listening and mediation.

CJ 210 Introduction to Criminal Investigation
(3 class hrs/wk, 3 cr) As needed
Introduces the fundamentals of criminal investigation theory and history, from the crime scene to the courtroom. Emphasizes techniques appropriate to specific crimes.

CJ 211 Ethical Issues in Law Enforcement
(3 class hrs/wk, 3 cr) As needed
The law enforcement community has an established code of ethics embedded in all professional activities. This course provides an overview of ethics theory as it applies to the criminal justice professional. This course also focuses on practical and ethical solutions to common dilemmas experienced by those working in law enforcement.

CJ 220 Introduction to Substantive Law
■ *(3 class hrs/wk, 3 cr) As needed*
Surveys the historical development and philosophy of law and constitutional provisions; the definition and classification of crimes and their application to the system of administration of justice; and the legal research, case law and concepts of law as a social force.

CJ 222 Procedural Law
(3 class hrs/wk, 3 cr) As needed
Reviews the evolution and status of U.S. case law relating to search and seizure, warrants, arrests, self-incrimination, right to counsel, *Miranda,* and other issues arising out of the U.S. Constitution relevant to the function of law enforcement professionals. Offered as needed.

CJ 226 Constitutional Law
(3 class hrs/wk, 3 cr) As needed
Focuses on the study of the fundamentals of the U.S. Constitution, including the separation of power; the structure of the federal court system; preemption; the Bill of Rights and subsequent amendments; U.S. case law and its relation to law enforcement; and the effects of constitutional limitations on police power.

CJ 230 Introduction to Juvenile Corrections
(3 class hrs/wk, 3 cr) As needed
An introductory perspective of the historical and contemporary aspects of the juvenile offender, including examination of juvenile court philosophy and current treatment programs.

CJ 232 Introduction to Corrections/Counseling/Casework
(3 class hrs/wk, 3 cr) As needed
Reviews the corrections system today combined with an overview of basic counseling techniques.

CJ 233 Community-Based Corrections
(3 class hrs/wk, 3 cr) As needed
Explores philosophy and programs of juvenile and adult probation supervision, after-case parole, halfway homes, work- and educational-release furlough, as well as executive clemency and interstate compact practices. Examines the dilemma of surveillance — custody/control factors vs. supervision/treatment.

CJ 280A CWE Corrections
(6–42 class hrs/wk, 2–15 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to corrections. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

CJ 280B CWE Law Enforcement
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to law enforcement. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

CR: COLLISION REPAIR

CR 3.511 Collision Repair and Refinishing Basics
(20 class hrs/wk, 1–12 cr) F
Introduces repairing of minor collision damage, basic collision repair tools, refinishing materials, refinishing equipment and vehicle surface preparation. Also included are environmental hazards and safety procedures. Safety procedures include accident and injury prevention and personal safety and health protection from workplace hazards.

CR 3.512 Collision Repair and Refinishing Procedures
(20 class hrs/wk, 1–12 cr) W
Reviews environmental hazards and safety procedures. Introduces analyzing various types of automobile damage, reading an estimate and writing an estimate manually. Students learn auto glass replacement theory and bolt-on panel replacement and adjustment. Course also teaches plastic panel repair and refinishing procedures. Students learn how to look up a paint code using a computer, print out a paint formula, and mix and apply automobile refinishing materials. Students work together as teams on project vehicles, review work orders and communicate with customers. Prerequisite: CR 3.511 Collision Repair and Refinishing Basics or instructor's approval.

CR 3.513 Shop Procedures
(20 class hrs/wk, 1–12 cr) Sp
Reviews environmental hazards and safety procedures. Covers paint problems and final detailing. Also covers power tools, welded panel replacement and restoring corrosion protection. Prepares students for job search, interviews and writing a resume. Students continue team learning, reviewing work orders and customer relations. Prerequisite: CR 3.512 Collision Repair and Refinishing Procedures or instructor's approval.

CR 3.518 Collision Repair Welding I
(4 class hrs/wk, 2 cr) F
Students learn basic Gas Metal Arc Welding (GMAW), also called MIG. Welds on thin gauge sheet metal are inspected for penetration, defects, bead height and bead width.

CR 3.519 Collision Repair Welding II
(4 class hrs/wk, 2 cr) W
Students learn vertical and overhead Gas Metal Arc Welding (GMAW), also called MIG. Welds on thin gauge sheet metal are inspected for penetration, defects, bead height and bead width. Students will learn oxyacetylene safety, flames and cutting. Theory on aluminum welding will be covered. Prerequisite: CR 3.518 Collision Repair Welding I or instructor approval.

CS: COMPUTER SCIENCE

CS 133J JavaScript
(5 class hrs/wk, 4 cr) W
For the Web developer who knows how to create Web pages but would like to learn JavaScript to add event procedures. Prerequisite: CS 161 Introduction to Computer Science I Java or CS 133V Visual Basic.net and CIS 195 Web Development I with a minimum "C" grade or equivalent HTML experience as determined by a Computer Systems Department instructor.

CS 133U Programming in C++
(5 class hrs/wk, 4 cr) Sp
Introduces problem analysis and programming to solve computation problems. Introduces C++ for those with previous programming experience. Prerequisites: CS 161 Introduction to Computer Science I Java with a minimum "C" grade or equivalent experience as determined by a Computer Systems Department advisor; MTH 095 Intermediate Algebra or higher.

CS 133V Visual Basic I
(5 class hrs/wk, 4 cr) F
An intensive introductory course in the design and implementation of programs for Microsoft Windows® using Visual Basic.Net®. Equivalent to

Oregon State University course BA 272. Prerequisite: CIS 160 Orientation to Computer Science with a minimum "C" grade or equivalent as determined by the instructor. A Readiness Assessment Quiz will be given at the first class session to verify that each student has a sufficient understanding of algorithmic logic to succeed in the course.

CS 140U Fundamentals of UNIX/Linux
(5 class hrs/wk, 4 cr) Sp
A laboratory-intensive course which provides new users with an introduction to the Linux® operating system. Students will install and administer their own Linux® systems, primarily using professional command-line tools. Topics will include file system navigation and permissions, text editors, shell scripting and network-oriented utilities. The course provides partial preparation for the Linux+® exam. Prerequisite: MTH 095 and CIS 151 Networking Essentials, both with a minimum "C" grade.

CS 145 Hardware/Software Selection and Support
(3 class hrs/wk, 3 cr) W
Systematically presents evaluation criteria for selection of microcomputer hardware, software, service and support, including assessment of needs, compatibility of hardware and software, and reliability of dealership support. Extends knowledge of command line interface. Prerequisite: CIS 125 Introduction to Software Applications with a minimum "C" grade or equivalent experience as determined by a Computer Systems Department advisor.

CS 160 Orientation to Computer Science
(5 class hrs/wk, 4 cr) F/W/Sp
Introduces the field of computer science and programming. Covers binary encoding of data, digital logic, computer organization, operating systems, programming languages, algorithms, software engineering, data and file organization. Intended for students who wish to investigate a career in computer science and related fields. Corequisite: MTH 095 Intermediate Algebra and CIS 125 Introduction to Software Applications.

CS 161 Introduction to Computer Science I (Java)
(5 class hrs/wk, 4 cr) F/W/Sp
Introduces the principles of computer programming using an object-oriented language. Includes problem-solving concepts, verification and validation, representation of numbers, sources of errors, debugging techniques and algorithm development. The Java programming language is used. Corequisites: CS 160 Orientation to Computer Science. Prerequisite: MTH 095 Intermediate Algebra or higher with a minimum "C" grade.

CS 162 Introduction to Computer Science II (Java)
(5 class hrs/wk, 4 cr) W/Sp
Covers software engineering principles, basic data structures and abstract data types (arrays, strings, stacks, queues and graphics). Introduces analysis of algorithms, sorting and searching. Expands on Graphical User Interfaces, Swing components, layout managers and event-driven programming. Also covers polymorphism, inheritance, recursion and exceptions. The Java programming language is used. Prerequisite: CS 161 Introduction to Computer Science I (Java) with a minimum "C" grade.

CS 180 Supervised Computer Practicum
(4 class hrs/wk, 2 cr) W
Provides an opportunity to gain experience consulting with end-users in a setting such as a campus computer lab. Complete before the off-campus CWE experience. Consulting experiences include troubleshooting and problem-solving skills similar to those used in many business and software environments. Designed for Computer User Support majors in their second year of coursework. Prerequisite: Instructor's approval.

CS 225 End-User Computing Support
(4 class hrs/wk, 4 cr) Sp
Prepares the student for training and supporting end-users in a variety of organizational settings. Includes the organization necessary to deliver support; techniques for developing and delivering training modules; and strategies for providing ongoing technical support to end-users to include: on-site visits, Web tools, call management, and use of third party vendors. Emphasizes solving problems and the soft skills (appropriate communication, dress, grooming and social skills) required to interact with users. Prerequisite: CS 145 Hardware/Software Selection and Support with a minimum "C" grade.

CS 227H Systems Support: Hardware
(4 class hrs/wk, 3 cr) W
A workbench course that provides experience with common computer hardware problems. Emphasizes troubleshooting, problem solving, and building skills in hardware support. Prerequisite: CS 227S Systems Support: Software, with a minimum "C" grade.

CS 227S Systems Support: Software
(4 class hrs/wk, 3 cr) F
A workbench course that provides experience with common computer application software problems. Emphasizes troubleshooting, problem solving and building skills in computer user support. Includes registry patches, tech support Web site, and installations such as printer sharing and voice recognition. Prerequisite: BA 271 Information Technology in Business with a minimum "C" grade.

CS 240A Microsoft Windows® Server Administration I
(5 class hrs/wk, 4 cr) W
The first of two courses in the administration of Microsoft Windows® client/server networked operating systems. The courses CS 240A and CS 240B are laboratory-intensive courses that provide hands-on experience in the planning, installation and administration of Microsoft Windows® client/server networks. The combination of courses provides partial preparation for the MCSA® and, eventually, MCSE® exams. Prerequisites: CIS 151 Networking Essentials, CS 140U Fundamentals of UNIX/Linux, CS 279 Network Management or equivalent, all with minimum "C" grades.

CS 240B Microsoft Windows® Server Administration II
(5 class hrs/wk, 4 cr) Sp
The second of two courses in the administration of Microsoft Windows® client/server networked operating systems. The courses CS 240A and CS 240B are laboratory-intensive courses that provide hands-on experience in the planning, installation, and administration of Microsoft Windows® client/server networks. The two courses provide partial preparation for the MCSA® and, eventually, MCSE® exams. Prerequisite: CS 240A Microsoft Server Administration I with a minimum "C" grade.

CS 244 Systems Analysis and Project Management
(5 class hrs/wk, 4 cr) W
A practice-oriented course with examples, applications and proven techniques that demonstrate systems analysis and design. Actual organization and business settings are used to show how systems concepts can apply to many different types of enterprises.

CS 260 Data Structures (Java)
(5 class hrs/wk, 4 cr) F
Includes the topics of complexity analysis, trees, file processing, binary search trees, hashing and storage management. Prerequisite: CS 162 Introduction to Computer Science II with a minimum "C" grade.

CS 271 Computer Architecture and Assembly Language
(4 class hrs/wk, 4 cr) Sp
Introduces functional organization and operation of digital computers. Coverage of assembly language: addressing, stacks, argument passing, arithmetic operations, decisions, macros, modularization, linkers and debuggers. Prerequisites: CS 160 Orientation to Computer Science with a minimum "C" grade.

CS 275 Database Systems: SQL and Oracle
(5 class hrs/wk, 4 cr) W
Introduces the design, purpose and maintenance of a database system. Covers the entity-relationship model, relational systems, data definition, data manipulation, query language (SQL) and the Oracle and Access database management environments. Prerequisites: CS 160 Orientation to Computer Science with a minimum "C" grade and BA 271 Information Technology in Business with a minimum "C" grade or CIS 125D Introduction to Databases with a minimum "C" grade and at least one programming class.

CS 279 Network Management
(5 class hrs/wk, 4 cr) F
Through the use of lectures, reading, and hands-on practice, and access with supervisor rights to Network Operating System servers and clients, students learn to administer a Network Operating System. Covers creating Directory objects, assigning security rights, administrative scripting, network file systems, network printer setup, and network directory planning. Prerequisite: CIS 125 Introduction to Software Applications, CIS 151 Networking Essentials, CS 140U Fundamentals or UNIX/Linux, all with minimum "C" grades.

CS 280 CWE Computer Systems
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to computer systems. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Minimum of 24 credit hours in the program. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

CS 284 Introduction to Computer Security and Information Assurance
(5 class hrs/wk, 4 cr) Sp
This introductory course deals with the fundamental basic principles and surveys modern topics in computer security. It covers privacy concerns, policies and procedures, hardware security, software security, network security, and data security. Multi-level security, Public Key Infrastructure (PKI) and access control are discussed along with an introduction to cryptography. Prerequisite: MTH 095 Intermediate Algebra with a minimum "C" grade. CS 160 Orientation to Computer Science or CS 145 Hardware/ Software Selection and Support with instructor approval with a minimum "C" grade.

CS 2.589 Reading and Conference: Computer Systems
(1–20 class hrs/wk, 1–10 cr)
Individualized course covering subject areas of particular interest to the student or areas where additional work is needed. Note: Number of credits is determined by amount of time spent and agreed upon in advance by instructor. Prerequisite: Instructor approval.

CSS: CROP SCIENCE

CSS 105 Soils and Man
(3 class hrs/wk, 3 cr) Sp
Explores soil resources in relation to environmental planning and sound ecological principles of land use. Includes examples and case studies involving soil problems and limitations in land use, pollution control and ecological aspects of production. Independent project required. Student teams make presentation regarding land-use issues based on soil survey data.

CSS 200 Principles of Crop Science
(5 class hrs/wk, 4 cr) F
Includes the fundamental principles, concepts and illustrative facts concerning seedbed preparation, planting, fertilizing, irrigation, harvesting, storage, processing and marketing of cultivated crops. It also includes pest management, crop rotations, quality control and crop improvement. The lecture is designed to provide the student with background knowledge of common agricultural crops. The lab experience gives students practical applications in plant structure and growth; crop, weed, insect and disease identification; and the various cultural practices.

CSS 205 Soils: Sustainable Ecosystems
(6 class hrs/wk, 4 cr) F
Soil ecosystems as a medium for plant and crop growth, the cycling of nutrients, supply and purification of water, and a habitat for diverse population of soil organisms. Relationship of human activities to the sustainability of soil ecosystems.

CSS 210 Forage Crops
(4 class hrs/wk, 3 cr) Sp
Emphasizes practices that produce maximum economic returns for land devoted to hay, pasture or range. Includes establishment and management, fertilization, pest control, rotations, irrigations and renovation. Note: This is a career and technical course that may not be accepted by four-year institutions.

CSS 215 Soil Nutrients and Plant Fertilization
(4 class hrs/wk, 3 cr) W
An introduction to the essential soil nutrients and their use in agronomic and horticultural crops. Processes in the soil nutrient supply and plant nutrient uptake are discussed. Students become familiar with common synthetic and organic fertilizers and soil amendments and learn how to apply fertilizers using various application methods. Environmentally sound use and holistic management of agricultural nutrients are emphasized.

CT: CONSTRUCTION & FORESTRY EQUIPMENT TECHNOLOGY

CT 3.123 Fundamental Shop Skills
(4 class hr/wk, 3 cr)
This course will give the student practical working knowledge of safety in the trade areas of employment. It uses safety regulatory agencies as a foundation, and also includes fork lift training. Prerequisite: Instructor signature required.

CT 3.129 Heavy Equipment/Diesel Engines
(12 class hrs/wk, 1–7 cr)
This section of our program pertains to the operating principles, maintenance, repair and overhaul of various types and sizes of diesel engines. Diesel engines, their component parts, and related accessories are studied in depth. In conjunction with this is the study of manufacturer's specifications as they pertain to correct engine operation, performance and emissions. Prerequisite: Placement test scores at RD 080 Development Reading Skills, MTH 020 Basic Mathematics and instructor signature required.

CT 3.130 Heavy Equipment/Diesel Tune-Up
(20 class hrs/wk, 1–10 cr)
A capstone class that introduces diesel tune-up and techniques for optimum engine performance, including diagnostic troubleshooting, engine break-in procedure through use of the dynamometer. The student will use all of the critical thinking skills they have learned in past classes to solve real world problems on mechanical and computer managed engine and truck. This class also includes the ITS Diesel Club. Prerequisite: Placement test at RD 080 Developing Reading Skills, MTH 020 Basic Mathematics, and instructor signature required.

CT 3.132 Advanced Mobile Hydraulics
(8 class hrs/wk, 5 cr)
This course covers advanced hydraulic theory along with service and repair of valves, pumps, motors, and connectors used in mobile equipment hydraulic systems. Systems design and modification will be covered. Machine systems will be learned using hydraulic schematic drawings. Common customer concerns with specific heavy equipment and their solutions will be learned. Operational check-out and laptop computer testing of heavy equipment will be performed in labs, as well as repair and

adjustment and electronic controls. Prerequisite: CT 3.134 Basic Hydraulics and instructor signature required.

CT 3.134 Basic Hydraulics
(5 class hrs/wk, 3 cr)
This course covers hydraulic theory along with pump, actuator application, and valve design and theory. Prerequisite: Instructor signature required.

CT 3.140 Industrial Diesel Engine Fuel Systems
(4 class hrs/wk, 1–3 cr)
This course covers the theory, repair, testing and calibration of diesel fuel injection pumps, governors, and injector assemblies. The class will be taught giving as much time for hands-on work as possible. Prerequisite: instructor signature required.

CT 3.146 Pneumatic Brakes and Controls
(10 class hrs/wk, 1–5 cr) W
This course acquaints the student with the theory and application of pneumatic braking systems. The student will learn to service, diagnosis and repair ABS, foundation, accessory and safety air systems. Prerequisite: Placement test at RD 080 Developing Reading Skills and MTH 020 Basic Mathematics and instructor signature required.

CT 3.295 Power Train Systems
(20 class hrs/wk, 1–10 cr)
Studies include power train terminology, theory and operation, driveshaft function and construction, maintenance practices, power train schematics, troubleshooting and failure analysis, and component rebuild and replacement. Prerequisite: Placement test scores at RD 080 Developing Reading Skills, MTH 020 Basic Mathematics, and instructor signature required.

CT 3.296 Steering, Suspension and Brakes
(10 class hrs/wk, 1–5 cr)
Covers the theory and operation of heavy duty steering and suspension systems, alignment and brakes. Diagnostic and service techniques are taught with the use of components and vehicles. Learning strategies include multimedia presentations, discussion, research and lab practice. Prerequisite: Placement test scores for RD 080 Developing Reading Skills, MTH 020 Basic Mathematics, and instructor signature required.

CT 3.297 Electrical and Electronic Systems
(20 class hrs/wk, 1–10 cr)
Introduces the theory, application and diagnosis of the electrical and electronic control systems for modern vehicles. Emphasis will be placed on batteries, starting, charging, lighting, accessories and driver information systems. Preparation for ASE certification in electrical/electronic systems. Prerequisite: Placement test scores for RD 080 Developing Reading Skills, MTH 020 Basic Mathematics and instructor signature required.

CT 3.303 Mobile AC and Comfort Systems I
(5 class hrs/wk, 3 cr)
Principles of mobile heating and air conditioning systems with an emphasis on design, function, adjustment, service and testing of components. Prerequisite: CT 3.297 Electrical and Electronic Systems and instructor signature required.

CT 3.643 Customer Service
(2 class hr/wk, 2 cr)
This course is designed to help students develop outstanding customer service skills in a dealership setting serving clients/customers. Students will learn how to interact with customers (communicating in person), resolve conflicts, maintain records, understand the importance of customer satisfaction/retention, actively participate as a member of a team, and develop time management skills. Prerequisite: Placement test scores for RD 080 Developing Reading Skills, MTH 020 Basic Mathematics and instructor signature required.

CT 3.644 Deere Level 1 Certifications
(1 class hr/wk, 1 cr)
Students will pass all John Deere level one certification tests. Prerequisite: Construction and Forestry Equipment Technology students only; instructor approval.

CT 3.645 Deere Level 2 Certifications
(1 class hr/wk, 1 cr)
Students will pass all John Deere level two certification tests. Prerequisite: Construction and Forestry Equipment Technology students only; instructor approval.

DA: DENTAL ASSISTANT

DA 5.453 Dental Pathology/Pharmacology
(2 class hrs/wk, 2 cr) Sp
The study of oral pathology will cover the recognition of gross symptoms of oral disease, the treatment procedure and the prevention of oral disease to include the drugs and medications most commonly associated with treatment. An in-depth study of pathological diseases, normal and injured tissues, developmental anomalies, dental caries, abscesses and cysts will be discussed. Prerequisites: DA 5.500 Dental Anatomy/Histology and BI 4.220 Survey of the Human Body.

DA 5.461 Dental Radiology I
(4 class hrs/wk, 3 cr) F
An introduction to the principles and hazards of radiation, exposing and processing films, visual identification of anatomical landmarks, operation of X-ray equipment, including safety factors for patient and operator. Prerequisite: Admission to the Dental Assistant Program.

DA 5.462 Dental Radiology II
(4 class hrs/wk, 3 cr) W
A continuation of DA 5.461. An in-depth study of X-ray and patient considerations, increased skills including exposures of X-rays on mannequins and patients. Students will participate in exposing, processing and mounting dental radiographs. Other radiographic methods will include extraoral, panoramic, endodontic, pedodontic, occlusal and disto-oblique techniques. Prerequisites: DA 5.461 Dental Radiology I.

DA 5.463 Dental Radiology III
(4 class hrs/wk, 3 cr) Sp
Advanced X-ray clinical application of dental radiographic procedures and skills proficiency for periapical and bitewing X-rays. Students will expose radiographs on patients in the radiology labs. Emphasis is placed on identification of errors and corrective techniques. Prerequisite: DA 5.462 Dental Radiology II.

DA 5.484 Dental Materials I
(4 class hrs/wk, 3 cr) F
An introduction to laboratory applications in the handling and manipulating of dental materials is designed to improve proficiency and efficiency at chairside procedures, emphasis on principles of physical and chemical properties of gypsum, impressions materials, waxes, custom trays and basic principles and asepsis of laboratory procedures, including fixed prosthetic materials and gold products. Precautions and safe handling of dental laboratory materials will be presented through use of Material Safety Data Sheets (MSDS). Prerequisite: Admission to the Dental Assistant Program.

DA 5.485 Dental Materials II
(4 class hrs/wk, 3 cr) W
An introduction to the diverse materials used in the dental office. The physical and chemical properties of bases, adhesives, cements, anticariogenic agents, and restorative materials in reference to manipulation and usage. Precautions and safe handling of dental materials will be presented through the use of Material Safety Data Sheets (MSDS). Prerequisites: DA 5.500 Dental Anatomy/Histology, DA 5.494 Introduction to Dentistry, DA 5.484 Dental Materials I.

DA 5.488 Expanded Duties I
(3 class hrs/wk, 2 cr) W
A study of procedures beyond the scope of general chairside assisting. The Oregon Dental Practice Act allows for instruction in placement and removal of matrix retainers, placement of temporary restorations, coronal polishing and fluoride treatments, and methods of fitting and adjusting permanent crowns. Prerequisites: DA 5.494 Introduction to Dentistry, DA 5.500 Dental Anatomy/Histology.

DA 5.489 Expanded Duties II
(3 class hrs/wk, 2 cr) Sp
A continuation of DA 5.488. This course will complete the remaining expanded function duties that are approved by the Oregon Dental Practice Act. An in-depth study with major emphasis on student practical application and fabrication of temporary crowns, cement removal techniques, placement of temporary soft denture relines, pit and fissure sealants, and amalgam polishing. Use of correct hand and motion techniques, selection of armamentarium, recognition of polishable amalgam restorations, and safety precautions for patient comfort are emphasized. Prerequisite: DA 5.488 Expanded Duties I.

DA 5.491 Dental Office Records
(2 class hrs/wk, 2 cr) Sp
Basic office principles as related to their application in a dental office. Patient reception, communication, and telephone techniques, appointment scheduling, office record maintenance, financial arrangements and coordination. Purchasing and supply control, management of office equipment, scheduling of meetings/conferences and preparing written communications. Billing insurance companies, collection procedures and computerized billing systems are covered in depth. Prerequisite: Third-term status.

DA 5.492 Dental Office Emergencies
(2 class hrs/wk, 2 cr) Sp
Provides familiarization with various emergency situations that may occur in a dental office and the primary first aid choice. The signs and symptoms of a medical emergency, the equipment, treatments, and drugs are discussed. Emphasis is placed on the responsibility of the dental health team to be prepared for an emergency. CPR recertification will be included within the course if needed. Prerequisite: Third-term status.

DA 5.494 Introduction to Dentistry
(4 class hrs/wk, 3 cr) F
An introduction to clinical dentistry. Emphasis is placed on dental health team members, historical developments, introductory terminology, office communications, ethics and jurisprudence, dental practice acts, work ethics and patient management. Treatment room preparation, health history data collection, dental equipment identification, aesepsis and disinfection, preset trays, operator positioning, basic instruments, instrument transfer, oral charting, general office routine, productivity, marketing and performance appraisals are covered in detail. A brief introduction to dental specialties will be presented to include all aspects of dental care available to the public. Prerequisite: Admission to Dental Assisting Program.

DA 5.495 Clinical Practice
(6 class hrs/wk, 4 cr) W
A continuation of DA 5.494. Principles of operative dentistry and fixed prosthetics are covered in detail, the order of procedure, hand and rotary instrumentation, anesthesia, handpieces, isolation and control of the operative field and post operative instructions are acutely emphasized. Prerequisite: DA 5.494 Introduction to Dentistry.

DA 5.496 Dental Specialties
(4 class hrs/wk, 3 cr) Sp
Dental specialties, role of dental auxiliaries, specialized instrumentation, materials and equipment will be encompassed to demonstrate a thorough knowledge of the following Dental Specialty Practices: Endodontics, Pedodontics, Prosthodontics, Periodontics, Oral Surgery, Orthodontics and Implant Surgery. The student will participate in two separate specialty practices during this term.

DA 5.497 Dental Health Education
(1 class hr/wk, 1 cr) F
Development of concepts and principles of plaque related diseases, fluoride therapy, brushing and flossing techniques, patient education, including oral hygiene, preventative dentistry, and motivational techniques. Student community projects stress the principles of communication and preventative dentistry. Prerequisite: Admission to the Dental Assistant program.

DA 5.498 Dental Health/Nutrition
(1 class hr/wk, 1 cr) W
Nutritional information applied to good oral health, including the food pyramid, nutrients, food diaries, and nutritional deficiencies as they relate to dental conditions. Basic principles of prevention of oral disease through patient and public education are stressed. Prerequisite: DA 5.497 Dental Health Education.

DA 5.500 Dental Anatomy and Histology
(2 class hrs/wk, 2 cr) F
An in-depth study of dental terminology as it relates to normal anatomy, physiology and histology of the teeth and associated structures, their embryological development and histological characteristics, the function of oral structures. The universal numbering system for individual teeth is used in extensive detail, surfaces and comparison of similarities and differences of all teeth. Prerequisite: Admission to the Dental Assistant Program.

DA 5.501 Dental Infection Control and Sterilization
(2 class hrs/wk, 2 cr) F
An in-depth study of principles in dental infection control, decontamination, disinfection and sterilization. This course will provide basic requirements for OSHA's blood borne pathogens, hazard communication and general safety standards in a dental environment, and includes sterilization principles, machines and techniques. Students will be eligible to take the infection control examination (ICE) administered by the Dental Assisting National Board (DANB) upon successful completion of this course. Prerequisite: Admission to the Dental Assistant Program.

DA 5.510 Office Practicum
(32 class hrs/wk, 8 cr) Su
The dental assisting student is provided with work experience that places practical application of all clinical skills in community dental offices. A total of 256 hours in two separate general dentistry offices. Emphasis is placed on the individual's ability to work in a dental health team setting with minimal direction. Prerequisite: Completion of all required Dental Assistant Program courses with a high level of competency, as set by the Dental Assistant Department.

DA 5.515 Office Practicum Seminar
(2.5 class hrs/wk, 2 cr) Su
A series of weekly seminars in which students share work related experiences with the instructor and peers. Information regarding employment, skills improvement, job applications, résumé formats and interviewing techniques are covered as well as preliminary reviewing and testing for the national certification examination. Prerequisite: Fourth-term status.

DA 5.525 Intermediate Dental Assisting
(2 class hrs/wk, 1 cr) W
A study of dental assisting chairside procedures beyond basic skills. This intermediate course will include techniques to acquire skills for placing and removing rubber dams, taking alginate impressions, and taking bite registrations for study model articulation. Emphasis is on patient care and postoperative instructions. Prerequisites: DA 5.494 Introduction to Dentistry and Winter Term status.

DA 5.550 Human Relations in Dentistry
(2 class hrs/wk, 2 cr) Sp
An introduction to human relations as they pertain to success in a dental setting (as well as personal lives) utilizing methods of dealing with stress, motivation, behavioral management and problem solving for personal growth. In addition, social perception, emotions and historical elements of psychology of interpersonal relationships, including self-concept, emotion,

gender, culture and cultural diversity issues of everyday living will be addressed. This course will aid in developing patient/customer service skills through team participation and communication in respect to professional/personal encounters affecting work values, ethics and leadership skills. Prerequisite: Third-term status in program.

EC: ECONOMICS

EC 115 Outline of Economics
■ *(4 class hrs/wk, 4 cr) F/Sp/Su*
Provides an overview of micro- and macroeconomics. The U.S. economic system is discussed from both national and individual perspectives. Discusses topics such as supply and demand, national accounting, monetary policy, fiscal policy, productivity, market models, income, wealth and taxation.

EC 201 Introduction to Microeconomics
■ *(4 class hrs/wk, 4 cr) F/W/Sp/Su*
Introduces the theory of relative prices in a market system, consumer choice, marginal analysis, and the allocation of productive resources among alternative uses in a market economy. Other topics may include market power and price discrimination, public finance, the labor market and environmental policy.

EC 202 Introduction to Macroeconomics
■ *(4 class hrs/wk, 4 cr) W/Sp/Su*
Introduces the determination of levels of national income, employment and prices, and the basic causes of fluctuations in the business cycle, the banking system, monetary policy and financial intermediation. Other topics may include international trade and international finance.

EC 215 Economic Development of the U.S.
■ *(4 class hrs/wk, 4 cr) F/Sp*
Provides historical study and understanding of the sources of economic growth and change in the United States. Discussions about how changes in industry, agriculture, commerce, transportation, labor, and finance have affected the speed of change of American lifestyles and the increased economic well-being of society.

EC 220 Contemporary U.S. Economic Issues: Discrimination
■ *(3 class hrs/wk, 3 cr) W/Sp*
Focuses on discrimination in the U.S. and its impact within our market economy. Primary focus is inequities for women and minorities in the labor market.

ED: EDUCATION

ED 101 Observation and Guidance
(7 class hrs/wk, 3 cr) F/W/Sp/Su
An introductory practicum experience focusing on methods of interacting with young children in classroom or child care settings. Students work with children individually and in small groups.

ED 101A Observation and Guidance
(7 class hrs/wk, 3 cr) F/W
Students observe children and teachers in an elementary or secondary classroom setting and assist the teacher as appropriate. Students spend six hours each week in the classroom and one hour each week in seminar. Appropriate for students with limited prior experience with children or in a structured teaching setting. Must be arranged one term in advance. Recommended: ED 216 Purpose, Structure and Function of Education in a Democracy or HDFS 233 Professional Foundations in Early Childhood before taking this class.

ED 102 Education Practicum
(7 class hrs/wk, 3 cr) F/W/Sp/Su
Students gain experience by working with young children in an educational setting. Students increase their knowledge of child development and learning environments, begin planning and implementing curricula, and develop skills in guidance and discipline. Prerequisite: ED 101 Observation and Guidance; recommended: HDFS 248 Learning Experiences for Children, or ED 152 Creative Activities/Dramatic Play, or ED 179 Literature, Science and Math.

ED 102A Education Practicum
(7 class hrs/wk, 3 cr) F/W/Sp
Students assist the teacher in providing learning activities for children in an elementary or secondary classroom. In cooperation with teachers, students develop and deliver at least one lesson during the quarter. Students spend six hours each week in the classroom and one hour each week in seminar. Must be arranged one term in advance. Prerequisite: Experience working with children in a structured setting; recommended: ED 216 Purpose, Structure and Function of Education in a Democracy or HDFS 233 Professional Foundations in Early Childhood.

ED 103 Extended Education Practicum
(7 class hrs/wk, 3 cr) F/W/Sp/Su
Field experience in a classroom or child care setting with young children. Students apply in-depth knowledge, methods and skills gained from education courses. Includes one full-day teaching experience and planned interaction with parents. Prerequisite: ED 102 Education Practicum; recommended: HDFS 225 Child Development, ED 7.710 Principles of Observation; HDFS 248 Learning Experiences for Children or ED 152 Creative Activities/Dramatic Play or ED 179 Literature, Science and Math.

ED 104 Advanced Practicum
(34 class hrs/wk, 12 cr) F/W/Sp/Su
Pre-professional internship in a toddler, preschool or kindergarten classroom setting that closely resembles the duties of a teacher on a team. Provides comprehensive application of coursework in the program. Includes full-day work throughout the week and curriculum planning and implementation. Prerequisites: ED 103 Extended Education Practicum and HDFS 225 Child Activities Development and ED 7.710 Principles of Observation; HDFS 248 Learning Experiences for Children or ED 152 Creative Activities/Dramatic Play or ED 179 Literature, Science and Math.

ED 123 Reading Instruction
(4 class hrs/wk, 4 cr) Alternate years
Introduces the essential skills needed to read and the primary approaches to teaching reading. Presents a systematic approach to teaching reading with instruction in informal assessment, readiness indicators, vocabulary skills, and comprehension, as well as motivation to learn to read. Students learn techniques for implementing reading lessons, practice assessment techniques, and research a reading instruction topic of their choice. Also, students examine current area reading adoptions and learn benchmarks for reading performance.

ED 124 Mathematics and Science Instruction
(4 class hrs/wk, 4 cr) Sp
Course focuses on mathematics for Instructional Assistants. Covers a variety of instructional techniques that can be used with individual students or groups, how to cope with a variety of learning styles and special needs students, and the use of technology in the classroom. Learning will include the Oregon Mathematics Teaching and Learning Standards, Benchmarks, and Essential Learning Skills for grades 3, 5 and 8, Scoring Guides for Mathematics Problem Solving, and student portfolios. Students examine currently adopted math programs. There is an emphasis on becoming more comfortable with mathematics throughout the entire course. Prerequisite: MTH 060 Introduction to Algebra.

ED 152 Creative Activities/Dramatic Play
(3 class hrs/wk, 3 cr) W
Focuses on understanding and implementing a developmental approach to creative activities for young children. Involves hands-on experience with a wide variety of activities and mediums. Emphasizes art, music and movement, and creative dramatics. Includes methods of presentation and evaluation.

ED 179 Literature, Science and Math
(3 class hrs/wk, 3 cr) Sp
Focuses on understanding and creating quality curricula for young children. Hands-on experience with a wide variety of activities in literature, science and math. Includes planning, implementing, and evaluating materials learning experiences for young children.

ED 207 Beginning Leadership
(3 class hrs/wk, 3 cr)
Overviews leadership theory, styles and skills. Provides skill-building exercises, professional networking techniques, group process and teamwork methods, basic communication techniques, prioritizing, goal setting and other basic information necessary for those anticipating leadership roles.

ED 209A Theory and Practicum
(7 class hrs/wk, 3 cr)
Designed for students interested in teaching grades K–3 to gain experience by working with young children in a supervised laboratory setting. Students increase their knowledge of curriculum planning, learning environments, and guidance and discipline for young children. Skill development also includes observing children and planning developmentally appropriate activities. Prerequisites: HDFS 225 Child Development; recommended: HDFS 248 Learning Experiences for Children.

ED 216 Purpose, Structure and Function of Education in a Democracy
(3 class hrs/wk, 3 cr) F/W/Sp
Investigation of the purpose, structure and function of education in schools, communities and workplaces in Oregon, the United States and other countries, including: analyses of the historical, philosophical, social and political foundations of education; current issues and trends; factors affecting schooling, individual attainment, and reflection on one's own education.

ED 219 Multicultural Issues in Educational Settings
(3 class hrs/wk, 3 cr) F/W
Examination of the context of working with students' schools, communities and workplaces; the diversity of learners, learning cultures (e.g. urban, suburban, rural) and the diversity among learners within those different cultures; and the influence of culture on one's learning.

ED 252 Behavior Management
(3 class hrs/wk, 3 cr) Sp
Presents the principles of behavior management in order to maximize instructional potential. Attention is given to individual differences, developmental issues, learning and personality styles, and to positive communication techniques designed to develop prosocial competence.

ED 253 Learning Across the Lifespan
(3 class hrs/wk, 3 cr) Sp
Explore how learning occurs at all ages from early childhood through adulthood, major and emerging learning theories, individual learning styles including one's own learning styles, reflection on implications of how learning occurs, and the impact of these issues on the development and delivery of instruction.

ED 280 CWE: Education
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
Structured field experience in a teaching and learning setting. Working with a master teacher, students learn current educational strategies and techniques. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Credits are based on identified objectives and number of hours worked. This is a supervised work experience that must be approved by the CWE coordinator prior to enrolling in the class.

ED 280S Service Learning Education
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisites: Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their service learning approved by the appropriate faculty coordinator.

ED 282 Working with Children with Special Needs
(3 class hrs/wk, 3 cr) W
Overview of special education legislation and the role of family, school and community in educating and supporting individuals with disabilities. Class is tailored to meet the needs of students who enroll, with a focus on in-school special needs issues or community agency issues. Implementation of current legislation and its impact in the classroom are addressed.

ED 7.710 Principles of Observation
(3 class hrs/wk, 3 cr) W
Observe children, teachers and classroom environment using a variety of techniques. Focuses on methods of interacting with young children in a classroom setting.

ED 7.715 Developing Family-School Partnerships
(3 class hrs/wk, 3 cr) Alternate years
Describes strategies for developing positive relationships between families and schools in an early childhood setting. Studies communication, collaboration and partnerships to foster children's success. Prerequisite: 6 hours ED or HDFS classes.

ED 7.725 Job Search Skills
(1 class hr/wk, 1 cr) Alternate years
Learn how to organize and conduct a search for work in the field of education. Develop your resume, prepare for interviews, and go through the job application process.

ED 7.730 Early Childhood Ages and Stages

(3 class hrs/wk, 3 cr) F
Focuses on understanding normative stages of children's development (ages 0–8 years) and introduces child development research and terminology. Application of concepts to daily interactions with young children.

ED 7.731 Positive Guidance for Young Children
(3 class hrs/wk, 3 cr) F
Focuses on understanding and guiding behavior of young children (ages 0–8 years) in child care settings. Students look at the research supporting guidance practices, develop criteria for selection of strategies, evaluate popular guidance techniques and develop a toolbox of strategies that promote the healthy development of young children.

ED 7.732 Health, Safety and Nutrition in Early Childhood
(3 class hrs/wk, 3 cr) W
Focuses on the health, safety and nutritional needs of young children. Attention is given to a variety of topics with an emphasis on maintaining healthy and safe indoor and outdoor environments, providing nutrition education, understanding common diseases, and recognizing and reporting child abuse and neglect.

ED 7.733 Early Literacy: Speaking and Listening
(3 class hrs/wk, 3 cr)
Builds on the foundation of ED 7.753 and focuses in the area of oral language. Students will become familiar with stages of development and strategies to enhance vocabulary, phonological awareness, storytelling, shared reading and working with families. Recommended: ED 7.753 Foundations of Literacy.

ED 7.734 Early Literacy: Reading and Writing
(3 class hrs/wk, 3 cr)
Builds on the foundation of ED 7.753 and focuses in greater depth in the areas of emergent reading and writing. Students will become familiar with stages of development and strategies to enhance alphabet knowledge, word recognition, comprehension, and links between oral language and print. Recommended: ED 7.753 Foundations of Literacy.

ED 7.735 Teaching with the Brain in Mind
(3 class hrs/wk, 3 cr)
Focuses on an understanding of typical brain development and research, and how to apply the information to develop appropriate classroom experiences for young children.

ED 7.736 Poverty, Diversity & Domestic Violence
(3 class hrs/wk, 3 cr)
Focuses on the many facets of diversity and the issues of poverty and domestic violence. Students will become familiar with "isms" and our multicultural world.

ED 7.740 Introduction to School Libraries
(5 class hrs/wk, 3 cr) F
Presents an overview of school librarianship within the context of the educational mission of the school. Includes the role of the library assistant, basic library terminology, procedures and services, and library materials.

ED 7.741 Circulation of Library Materials
(5 class hrs/wk, 3 cr) F
Principles and practices of library circulation, print and electronic circulation systems, shelving, overdues, and interlibrary loan issues.

ED 7.742 Reference Materials and Services
(5 class hrs/wk, 3 cr) Sp
Introduction to using print and electronic reference materials and providing information services to students. Includes information literacy skills, and working with teacher and student assignments.

ED 7.743 Collection Development
(5 class hrs/wk, 3 cr) W
Presents an overview of the principles and practices of building and maintaining the library collection, including identifying the needs of the users and the elements and importance of a collection development policy in managing the collection. Students develop tools for dealing with library collection management issues.

ED 7.744 Organization of Library Materials
(5 class hrs/wk, 3 cr) Sp
Introduction to classification and cataloging practices including the Dewey Decimal System, subject headings, filing rules, MARC records, and print and electronic systems.

ED 7.745 Online Information Literacy for Librarians
(5 class hrs/wk, 3 cr) F
An introduction to using electronic resources in searching for information. Includes information literacy approaches to locating information for students and library patrons. Some library and computer experience helpful.

ED 7.746 Children's Literature and Reading Promotion
(5 class hrs/wk, 3 cr) W
An overview of literature for use with elementary, middle, and high school students. Includes fiction and nonfiction in a variety of genre, reading levels and interests, techniques for sharing literature with students.

ED 7.747 Multicultural Literature K–12
(5 class hrs/wk, 3 cr) F
An introduction to children's and young adult literature that respectfully depicts the range of cultures in the United States. Includes the selection, evaluation, and promotion of multicultural literature in library and classroom.

ED 7.748 Library Skill Curriculum
(5 class hrs/wk, 3 cr) W
An overview of the educational mission of K–12 instruction, library skills instruction and strategies to support classroom educational activities. Prior library or classroom experience helpful.

ED 7.749 Global Literature K–12
(5 class hrs/wk, 3 cr) W
An introduction to children's and young adult literature, fiction and nonfiction, set in countries around the world. Both contemporary and historical literature for use at the elementary and secondary school levels.

ED 7.751 Reading Promotion/Readers Advisory
(5 class hrs/wk, 3 cr) Sp
An overview of approaches, activities and techniques for providing readers advisory services and promoting reading in school and public libraries.

ED 7.752 Design and Production of Library Resources
(5 class hrs/wk, 3 cr) Sp
An overview of the design of the library and the use of library materials to respond to patron needs and interests. Includes the use of library space, signage, and visual communication of resources. Covers the creation and maintenance of print and electronic library and instructional materials.

ED 7.753 Foundations of Literacy
(3 class hrs/wk, 3 cr)
This class focuses on exploring the foundations of literacy: listening, speaking, reading and writing. Students will become familiar with emerging literacy in young children, strategies and curriculum for developing literacy skills.

EG: ENGINEERING GRAPHICS

EG 4.407 Introduction to CAD
(6 class hrs/wk, 4 cr) F/Sp
A course for drafters, technicians and engineers in the application and functions of computer-aided drafting. Emphasizes hands-on operation of CAD systems. Prerequisites: Working knowledge of Windows, drafting experience and instructor's approval.

EG 4.409 Drafting I
(3 class hrs/wk, 2 cr) F
Presents fundamentals of technical drawing. Emphasizes line language, geometric construction, sketching and layout procedures and multiview drawings.

EG 4.411 CAD I
(6 class hrs/wk, 4 cr) F
An introduction to the application and functions of computer aided drafting. Emphasizes hands-on operation of CAD systems. Prerequisite: MTH 065 Elementary Algebra. Corequisite: CIS 125 Introduction to Software Applications or demonstrated working knowledge through competency test.

EG 4.416 Intermediate CAD
(6 class hrs/wk, 4 cr) W
Teaches experienced AutoCAD users productivity enhancing tools and methodology to produce and edit drawings to ANSI standards using advanced commands. Includes advanced AutoCAD concepts and configuration. Prerequisite: EG 4.407 Introduction to CAD or instructor permission.

EG 4.421 CAD II
(6 class hrs/wk, 4 cr) W
Covers methods of technical drawing utilizing ANSI standards to produce two-dimensional technical drawings. Introduces more advanced techniques in drafting using AutoCAD's drawing and editing commands. Prerequisites: EG 4.411 CAD I and EG 4.409 Drafting I or instructor approval.

EG 4.423 Architectural Design I
(6 class hrs/wk, 4 cr) W
Introduces basic architectural drafting techniques and methods. Covers the fundamental concepts of residential building design with identification and use of professional architectural standards used in residential building drawings. Includes architectural symbols and construction methods used in residential and light commercial buildings. Prerequisites: EG 4.411 CAD I or instructor approval.

EG 4.431 CAD III
(6 class hrs/wk, 4 cr) Sp
Basic through advanced 3-D solids modeling using AutoCAD. Mechanical parts, assemblies, presentations and drawings to ANSI standards. Prerequisite: EG 4.421 CAD II or instructor approval.

EG 4.443 Schematics
(6 class hrs/wk, 4 cr) F
Covers methods for drawing electrical, mechanical and plumbing schematic diagrams and pictorial layouts. Includes logic diagrams, electronic component layout, printed circuit boards, schematics. Piping, plumbing and HVAC standards and practices also are studied. Prerequisite: EG 4.421 CAD II or instructor approval.

EG 4.445 Plane Surveying
(4 class hrs/wk, 3 cr) Sp
A basic course in surveying. Includes distance measuring, leveling, cross sectioning, traversing, topographic surveying, use of survey instruments, and office procedures. Prerequisites: MTH 097 Practical Geometry; EG 4.421 CAD II.

EG 4.446 Strength of Materials
(3 class hrs/wk, 3 cr) Sp
An introduction to engineering mechanics, including force, force vectors, moments, resultants, centroids, moments of inertia, bending stress, shear and tortion. Prerequisite: MTH 065 Elementary Algebra.

EG 4.451 Solids I
(6 class hrs/wk, 4 cr) F
This class explores basic parametric solid modeling, engineering design and rapid prototyping. Students will create solids, assemblies, and dimensioned drawings from the solids. Extrusions, Boolean operations and feature editing will also be covered. Prerequisite: EG 4.431 CAD III.

EG 4.452 Solids II
(6 class hrs/wk, 4 cr) W
Explores advanced parametric solid modeling, collaborative engineering design and rapid prototyping. Students gain practical, hands-on experience in design and production using the most advanced tools and technologies available today. Students create animation for client presentation as well as use stress analysis tools to refine design. Prerequisite: EG 4.451 Solids I.

EG 4.453 Customizing CAD Systems
(6 class hrs/wk, 4 cr) W
Customize the user interface of current CAD system focusing on increased productivity regardless of discipline. Includes keyboard and menu customization, editing toolbars, macros and programming. Prerequisite: EG 4.431 CAD III or instructor approval.

EG 4.454 Applied Solids Design
(4 class hrs/wk, 3 cr) Sp
Capstone class designed to challenge students with a team design project that is manufactured and tested, simulating a real world application of knowledge and skills. Prerequisites: EG 4.451 Solids I and EG 4.452 Solids II.

EG 4.455 Structural Drafting
(3 class hrs/wk, 2 cr) W
Introduces structural drafting. Emphasizes framing plans, connections, fabrication details, foundation drawings, and other drawings required for structural steel, precast concrete, and poured-in-place concrete drawings. Prerequisites: EG 4.411 CAD I and EG 4.409 Drafting I.

EG 4.456 Civil Drafting Lab
(2 class hrs/wk, 1 cr) Sp
A lab course covering basic civil drafting techniques. Designed for students concurrently enrolled in CEM 263 Plane Surveying who wish to include a civil drafting component in the surveying course. Includes drafting survey maps, plats, plan and profile, and topo maps. Prerequisite: EG 4.421 CAD II.

EG 4.457 Workplace Survey
(3 class hrs/wk, 1 cr) Sp
Introduction to actual workplace environments. Students experience workplace environments and end use of drawing efforts.

EG 4.463 Architectural Design II
(6 class hrs/wk, 4 cr) Sp
Covers intermediate residential design principles including design of floor plans, elevations, 3-D presentation and working drawings using advanced 3-D architectural software. Prerequisite: EG 4.423 Architectural Design I.

EG 4.465 Civil Drafting II
(6 class hrs/wk, 3 cr) W
Covers advanced topics in surveying and civil engineering drafting/design. Includes an introduction to Land Development Desktop. Prerequisites: Basic AutoCAD proficiency (EG 4.411 CAD I or equivalent) and Surveying (CEM 263 Plane Surveying or equivalent) and EG 4.456 Civil Drafting Lab.

EG 4.467 Technical Project
(2–6 class hrs/wk, 1–3 cr)
Advanced study in an area of student interest in the drafting trades. Develops skills in gathering, sorting and finding solutions to real life problems and procedures used in drafting.

EG 4.470 Geometric Dimensioning and Tolerancing
(4 class hrs/wk, 3 cr) Sp
This intermediate-level course for drafters, technicians, and engineers covers the application and use of modern geometric dimensioning and tolerancing (GD&T). Utilizes the updated and expanded practices of the latest ANSI Y14.5M-1994 on dimensioning and tolerancing. Prerequisites: EG 4.411 CAD I; EG 4.421 CAD II: EG 4.431 CAD III; EG 4.451 Solids I; or equivalent or instructor's approval.

EG 4.475 3-D Parametric Modeling
(2 class hrs/wk, 2 cr)
Covers mechanical design considerations for producing technical drawings for manufactured parts. Students learn Boolean operations in conjunction with parametric solids modeling in the creation of composite solid models. CIM data exchange files and formats are explored. Prerequisites: MTH 111 College Algebra or instructor approval.

EL: EMERGENCY MANAGEMENT LEADERSHIP

EL 5.200 Introduction to Emergency Planning
(20 hrs, 2 cr) As needed
Introduction to Emergency Planning. Introduction to community organizations and networks for the purpose of collaborative planning for emergency situations. Prerequisite: FEMA IS 700 course completion.

EL 5.205 Introduction to Critical Incident System
(20 hrs, 2 cr) As needed
Prepares the student for multi municipal emergencies with a focus on transportation, communication, infrastructure, laws/regulations and public dissemination of information. Prerequisite: EL 5.200 Introduction to Emergency Planning.

EL 5.210 Public Response to Emergency Situations
(20 hrs, 2 cr) As needed
Covers the history of public responses to emergency situations and disaster mythology and the implications/expectations of current planning. Prerequisite: EL 5.205 Introduction to Critical Incident System.

EL 5.215 Chemical Weapons and HAZMAT Incidents
(20 hrs, 2 cr) As needed
Introduces HAZMAT chemicals and emergencies. Introduction to chemical weapons and how to detect, decontaminate and treat victims. Prerequisite: EL 5.210 Public Response to Emergency Situations.

EL 5.218 Nuclear and High Explosive Weapons
(20 hrs, 2 cr) As needed
Introduces nuclear weapons types and categories. Introduction to high explosives, and terrorist uses. Prerequisite: EL 5.215 Chemical Weapons and HAZMAT Incidents.

EL 5.221 Biological Weapons and Disease Outbreaks
(30 hrs, 3 cr) As needed
Introduction to biologic agents and diseases. Review of past historical epidemics, pandemics and biological weapons. Prerequisite: EL 5.218 Nuclear and High Explosive Weapons.

EL 5.225 Natural Disasters
(30 hrs, 3 cr) As needed
Introduction to natural hazards and emergency management. Prerequisite: EL 5.221 Biological Weapons and Disease Outbreaks.

EL 5.230 Developing Resources and Plans for ICS
(20 hrs, 2 cr) As needed
Introduction to partnership building and funding for ICS. Prerequisite: EL 5.225 Natural Disasters.

EL 5.240 Current Crisis Leadership Practices
(20 hrs, 2 cr) As needed
Introduces management of crisis situations- past and current. Introduction to information, acquisition, communication and dissemination in emergency situations. Prerequisite: EL 5.230 Developing Resources and Plans for ICS.

EL 5.245 Introduction to Emergency Management Experience
(20 hrs, 2 cr) As needed
Introduction to simulated emergency management scenarios and exercises. Prerequisite: EL 5.240 Current Crisis Leadership Practices.

EL 5.255 Capstone EM Experience
(20 hrs, 2 cr) As needed
Simulated emergency management experiences, scenario/simulated based. Prerequisite: EL 5.245 Introduction to Emergency Management Experience.

EM: EMERGENCY MEDICAL TECHNICIAN

EM 5.801 Introduction to Emergency Medical Services
(3 class hrs/wk, 3 cr) As needed
Covers the role and responsibilities of the Emergency Medical Technician (EMT), emergency medical service systems, medical-legal considerations, major incident response, hazardous material awareness, and stress management, job search, resume writing, job application, career planning, moral and ethical issues of the EMT; public versus private ambulance service; emergency funding; multiple casualty incidents; leadership; and continued competence.

EM 5.810 EMT Basic Part A
(9 class hrs/wk, 3 cr) F/W
Introduced within a five-week portion of a term. EMT Basic Part A is the first part of a 15-week program, which is broken down into three five-week sessions. The focus is the theory and practice of procedural responsibilities delegated to the EMT-Basic. The course incorporates discussion, demonstration, and practical application of the following: roles and responsibilities, personal safety, OSHA regulations, patient medical assessment, oxygen administration, artificial ventilation, use of airway adjuncts and current field protocols. Successful completion of the EMT-Basic parts A, B, and C courses allow a student eligiblity to sit for state certifying examinations. Prerequisite: Must be 18 years of age. Must have current/valid driver's license. CPT reading test score of 51% or completion of RD 103 or better. Current negative TB test. Proof of Measles, Mumps and Rubella immunization. Proof of Hepatitis Vaccine series. Current AHA Health Care Provider CPR certificate or ARC Professional Rescuer certificate.

EM 5.811 EMT Basic Part B
(9 class hrs/wk, 3 cr) F/Sp
Designed to be presented within a portion of a term. This course is the second part of a 15-week program. Covers theory and practice of procedural responsibilities related to the EMT-Basic by incorporating discussion, demonstration, and practical application of the following: pharmacology, cardiovascular emergencies, diabetic emergencies, altered mental status, allergic reactions, anaphylaxis, environmental emergencies, obstetrical and gynecologic emergencies, and vascular emergencies. Successful completion of the EMT-Basic Parts A, B, C courses allow a student eligibility to sit for state certifying examination. Prerequisite: Completion of EMT Basic Part A.

EM 5.812 EMT Basic Part C
(11 class hrs/wk, 4 cr) W/Sp
Designed for presentation over a five-week portion of a term, this course covers theory and practice of procedural responsibilities delegated to the EMT-Basic. Incorporates discussion, demonstration, and practical application of the following: recognition and treatment of shock, MAST trousers, recognition and treatment of fractures, recognition and treatment of various emergency medical illnesses, use of automatic and semiautomatic defibillators and current field protocols. Includes 10 hours of on site precepted clinical in a hospital emergency room. This is the third portion of the EMT-Basic program. Successful completion of the EMT-Basic parts A, B, C courses allow a student eligibility to sit for state certifying examinations. Prerequisite: Completion of EMT Basic Part A and B.

EM 5.820 Emergency Communication and Patient Transportation
(3 class hrs/wk, 3 cr) As needed
This course covers ambulance operation, laws regarding ambulance licensure, emergency response driving, vehicular inventory, maintenance and safety; emergency response driving and route planning; map book orientation, communication systems, radio systems, codes and correct radio techniques. Also covers utilization of the HEAR radio and dispatch systems.

EM 5.825 EMT Rescue
(3 class hrs/wk, 3 cr) As needed
This course covers the fundamentals of procedures used in rescue practices, the rescue system and the control of rescue operations. The course also covers basic methodology and equipment used during rescue operations. Topics include auto extrication, rapid extrication techniques, patient transport devices, lift assist tools, traffic safety, rough terrain, water rescue and repelling techniques. Emphasis will be placed on traffic accidents.

EM 5.830 Crisis Intervention
(3 class hrs/wk, 3 cr) As needed
This course provides the theoretical background for understanding crisis and the ramifications of a major event. Practical guidelines in assessing and managing a variety of crisis events are covered. For example: How to manage death in the field, the dying patient, stress response of the friends, family members, yourself and other emergency workers. Critical Incident Stress Debriefing is introduced.

ENG: ENGLISH

ENG 104 Literature: Fiction
➢ *(3 class hrs/wk, 3 cr) F/W/Sp*
Examines fiction through selected literary works, such as the short story and the novel, and increases understanding of the conventions of fiction. Encourages exploration of the human experience through the reading of significant short stories and novels, with an emphasis on analysis, interpretation, and the fiction-writer's craft. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 105 Literature: Drama
➢ *(3 class hrs/wk, 3 cr) F/W/Sp*
Introduces Western drama from its origin in ancient Greece to today's theater, stressing conventions of drama as both a literary and performing art. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 106 Literature: Poetry
➢ *(3 class hrs/wk, 3 cr) F/W/Sp*
Studies poetry drawn from American, English and world literature, enhances understanding of the conventions of poetry and poetic forms, and encourages exploration of the human experience. Works are read in entirety when possible, with emphasis on elements such as form, style, imagery, figurative language and musical devices. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 107 Western World Literature: Classical
➢ *(3 class hrs/wk, 3 cr) F/Alternate years*
Surveys the literature of three cultures of the ancient western world from 3000 BC to 100 AD. Students explore the themes, stories and ideas that concern our literary ancestors, in particular the Greeks, Romans and Hebrews. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 108 Western World Literature: Middle Ages through Neoclassicism
➢ *(3 class hrs/wk, 3 cr) W/Alternate years*
Surveys European literature from the Middle Ages, Renaissance, and Neoclassical periods. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 109 Western World Literature: Modern
➢ *(3 class hrs/wk, 3 cr) Sp/Alternate years*
Surveys European literature from NeoClassic, Romantic, Realist, Modern and Post-Modern writers. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 110 Film Studies
➢ *(3 class hrs/wk, 3 cr) F/W/Sp*
Explores the power of film to shape and reflect culture and ideology; raises questions about film and its relationship to self, others, and social values. Studies film genres and styles; aesthetics; film history; film as a collaborative medium; Hollywood, independent and international cinema; techniques and grammar of film; and major film theories. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 121 Mystery Fiction
➢ *(3 class hrs/wk, 3 cr) As needed*
Explores the range and development of mystery fiction from pre-Poe to the present. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 201 Shakespeare
➢ *(3 class hrs/wk, 3 cr) F/Alternate years*
Studies major plays of Shakespeare, including the structure, characterization, setting and imagery employed in selected comedies, tragedies, histories and poems. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 202 Shakespeare
➢ *(3 class hrs/wk, 3 cr) W/Alternate years*
Studies major plays of Shakespeare, including the structure, characterization, setting and imagery employed in selected comedies, tragedies, histories and poems. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 203 Shakespeare
➢ *(3 class hrs/wk, 3 cr) Sp/Alternate years*
Studies major plays of Shakespeare, including the structure, characterization, setting and imagery employed in selected comedies, tragedies, histories and poems. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 204 English Literature: Early
➢ *(3 class hrs/wk, 3 cr) F/Alternate years*
Studies representative works in English literature for their inherent worth and for their reflection of the times in which they were written. Note: ENG 204, ENG 205 and ENG 206 need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 205 English Literature: Middle
➢ *(3 class hrs/wk, 3 cr) W/Alternate years*
Studies representative works in English literature for their inherent worth and for their reflection of the times in which they were written. Note: ENG 204, ENG 205 and ENG 206 need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 206 English Literature: Modern
➢ *(3 class hrs/wk, 3 cr) Sp/Alternate years*
Studies representative works in English literature for their inherent worth and for their reflection of the times in which they were written. Note: ENG 204, ENG 205 and ENG 206 need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 207 Non-Western World Literature: Asia
➢ *(3 class hrs/wk, 3 cr) F/Alternate years*
Literature of Asia, representative works of poetry, prose and drama. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 208 Non-Western World Literature: Africa
➢ *(3 class hrs/wk, 3 cr) W/Alternate years*
Literature of Africa. Literary works of both tribal and colonial origin. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 209 Non-Western World Literature: The Americas
➢ *(3 class hrs/wk, 3 cr) Sp/Alternate years*
Literature of the Americas (excluding the United States and Canada). Includes works of Hispanic, Native American and Afro-American origin predating the Spanish Conquest through contemporary writers. Note: Need not be taken in sequence. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 215 Latino/a Literature
➢ *(3 class hrs/wk 3 cr) As needed*
Examines the evolution of Latino/a literature beginning in the mid 16th Century when it originated through contact between European and pre-Columbian societies continuing through some of the most prominent modern day writers. Thematic issues to explore that have influenced and shaped the genre include historical events, cultural perspectives, stereotypes, multilingualism, gender, spirituality, cultural identity, immigration, assimilation into U.S. culture and society, as well as students' own perceptions of Latino/a culture. Readings may include works of history, memoirs, letters and essays, as well as fiction, poetry and drama by such authors as Christopher Columbus, Alvar Nuñez Cabeza de Vaca, Richard Rodriguez, Sandra Cisneros, Oscar Hijuelos, Gabriel García Márquea, Jose Martí, Rudolfo Anaya, and Luis Valdez. Prerequisite: College-level reading and writing skills (WR 212) are strongly recommended for success in this course.

ENG 220 Literature of American Minorities
➢ *(3 class hrs/wk 3 cr) F/W/Sp*
Features a selection of works by writers from ethnic minority cultures within the United States. The works of these cultures generally have not been well-represented in traditional literature courses, and the views from these cultures often are in contrast to the more familiar representations of mainstream literature. These works reflect historical and cultural examples of discrimination and difference across the society. This course will explore how humans have dealt with this discrimination and how these cultures enrich the patterns of the American experience despite their experiences as minorities. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 221 Children's Literature
➢ *(3 class hrs/wk, 3 cr) F/W/Sp*
Designed for students who have an interest in children's literature and for education majors who are or will be working with children. The course covers the history and various genres of children's literature and focuses on defining, valuing and evaluating. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 240 Native American Literature
➢ *(3 class hrs/wk, 3 cr) As needed*
This course features a selection of works by writers from native North American cultures within the United States and Canada. The works of these cultures have traditionally not been well-represented in literature courses, and the views from these tribal cultures are often in contrast to the more familiar representations of mainstream culture. These works reflect historical and cultural incidents of discrimination, warfare, and differences across the society. This course will explore how humans have dealt with survival after defeat in war, relocation, and discrimination and how these cultures enrich the patterns of the North American experience. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 253 American Literature: Early
➢ *(3 class hrs/wk, 3 cr) F Alternate years*
Presents intensive readings of significant U.S. authors representing major literary periods. ENG 253, ENG 254 and ENG 255 provide an understanding of and appreciation for American culture as expressed in literature. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 254 American Literature: Middle
➢ *(3 class hrs/wk, 3 cr) W Alternate years*
Presents intensive readings of significant U.S. authors representing major literary periods. ENG 253, ENG 254 and ENG 255 provide an understanding of and appreciation for American culture as expressed in literature. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 255 American Literature: Modern
➢ *(3 class hrs/wk, 3 cr) Sp Alternate years*
Presents intensive readings of significant U.S. authors representing major literary periods. ENG 253, ENG 254 and ENG 255 provide an understanding of and appreciation for American culture as expressed in literature. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 257 African-American Literature
➢ *(3 class hrs/wk, 3 cr) Sp As needed*
Focuses on African-American culture and tradition (social, political, historical) through an exploration of the literature by African-Americans. Studies works by African-American writers on their own terms, understanding the genres they created, the subjects they expressed, and their indelible voices in the American grain. This emphasis on African American voices, on their own terms, enriches understanding not only of these primary American authors, but also enriches our understanding of the rich cultural diversity of American literature. Prerequisite: WR 121 skill level suggested.

ENG 260 Women Writers
➢ *(3 class hrs/wk, 3 cr) As needed*
Introduces major works of literature by women authors, exploring women's literary history through poetry, short stories, essays, plays, novels and letters. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 261 Science Fiction
➢ *(3 class hrs/wk, 3 cr) As needed*
Explores science fiction, fantasy and speculative futures through popular fiction. Discusses content, styles, techniques and conventions of the genre. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

ENG 280S Service-Learning English/Writing
(3-42 class hrs/wk, 1-14 cr) F/W/Sp/Su
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisites: Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their service-learning approved by the appropriate faculty coordinator.

ENGR: ENGINEERING

ENGR 111 Engineering Orientation I
(4 class hrs/wk, 4 cr) F/W
Covers engineering as a profession, historical development, ethics, curricula and engineering careers. Introduces design, problem analysis and solution, and the general skills necessary for success in the Engineering program.

ENGR 112 Engineering Orientation II
(6 class hrs/wk, 4 cr) W/Sp
Covers systematic approaches to problem solving using the computer. Includes logic analysis, flow charting, input/output design, introductory computer programming, and the use of engineering software. Prerequisite: Math 111 College Algebra.

ENGR 201 Electrical Fundamentals: DC Circuits
(6 class hrs/wk, 4 cr) F
Covers fundamentals of circuit analysis, including node and mesh analysis, superposition, and Thevenin and Norton's Theorem. Introduces op-amps, capacitors and inductors. Prerequisite: MTH 251 Differential Calculus.

ENGR 202 Electrical Fundamentals: AC Circuits
(6 class hrs/wk, 4 cr) W
Covers AC circuit analysis techniques; covers sinusoidal steady state and analysis of three-phase circuits; introduces mutual inductance and transformers; looks at resonant circuit; investigate filters and continue to look at op-amp circuits. Prerequisites: MTH 252 Integral Calculus; ENGR 201 Electrical Fundamentals.

ENGR 203 Electrical Fundamentals: Signals and Controls
(6 class hrs/wk, 4 cr) Sp
Covers transient circuit analysis-RL, RC, RLC. Introduces LaPlace Transform and its use in circuit analysis, the transfer function, Bode diagram and two port networks. Prerequisites: MTH 253 Calculus; ENGR 202 Electrical Fundamentals.

ENGR 211 Statics
(5 class hrs/wk, 4 cr) F
Includes an analysis of 2D and 3D force systems, moments, resultants, equilibrium, trusses, frames and machines, centroids, moment and product of inertia, shear and moment in beams, and friction. Prerequisites: Working knowledge of spreadsheets, MTH 252 Integral Calculus.

ENGR 212 Dynamics
(5 class hrs/wk, 4 cr) W
Includes particle and rigid body kinematics and kinetics, Newton's laws, work energy and impulse momentum. Prerequisites: ENGR 211 Statics; MTH 252 Integral Calculus; PH 211 General Physics with Calculus or PH 201 General Physics; and a working knowledge of spreadsheets.

ENGR 213 Strength of Materials
(5 class hrs/wk, 4 cr) Sp
Includes simple stress and strain, biaxial stress and strain, pressure vessels, torsion, shear and moment, shear and normal stresses in beams, deflection, column analysis, and analysis of statically indeterminate structures. Prerequisites: ENGR 211 Statics; MTH 252 Integral Calculus; and a working knowledge of spreadsheets.

ENGR 245 Engineering Graphics and Design
(6 class hrs/wk, 4 cr) Sp
Includes two-dimensional and three-dimensional graphics, sketching, multiview projection, dimensioning, descriptive geometry, engineering design and an introduction to AutoCad®. Prerequisite: Working knowledge of Windows. Corequisite: MTH 111 College Algebra.

ENGR 271 Digital Logic Design
(4 class hrs/wk, 3 cr) Sp
Provides an introduction to digital logic and state machine design. Covers logic design, including logic gates, gate minimization methods and design with standard medium scale integration (MSI) logic circuits. Includes basic memory elements (flip-flops) and their use in simple-state machines. Prerequisites: MTH 231 Elements of Discrete Mathematics or MTH 251 Differential Calculus.

ENGR 272 Digital Logic Design Lab
(2 class hrs/wk, 1 cr) Sp
A lab to accompany ENGR 271 Digital Logic Design. Illustrates the topics covered in ENGR 271 using computer-aided design, verification tools and prototyping hardware. Prerequisite: ENGR 112 Engineering Orientation II or ENGR 201 Electrical Fundamentals: DC Circuits. Corequisite: ENGR 271 Digital Logic Design.

FW: FISH AND WILDLIFE

FW 251 Principles of Wildlife Conservation
(3 class hrs/wk, 3 cr) W
Introduces the interrelationships between the physical environment and wild animal populations. Examines the history of wildlife conservation and natural resource use, man's relationship to his natural environment, dynamics of animal populations, principles and practices of fisheries and wildlife management, and the role of wildlife biologists.

FW 252 Wildlife Resources: Birds
(5 class hrs/wk, 4 cr) Sp
Introduces the biology of birds, with specific emphasis on the ecological and physiological adaptations of birds, flight, migration, bird behavior and identification, and natural history of the common birds of Oregon. This course includes a laboratory component.

G: GEOLOGY

G 101 Introduction to Geology
- *(5 class hrs/wk, 4 cr) F*

Introduces geology and the processes that shape the landscape. Includes a study of rocks and minerals, volcanic activity, plate tectonics, earthquake activity, and earth's geologic resources. Field trips highlight topics discussed. This course includes a laboratory component.

G 102 Introduction to Geology
- *(5 class hrs/wk, 4 cr) W*

Introduces geology and the processes that shape the landscape. Includes weathering and erosion processes, river dynamics and morphology, ground water, glaciers, landslides, coastal processes, and an overview of environmental geology and geologic hazards. Field trips highlight topics discussed. This course includes a laboratory component.

G 103 Introduction to Geology
- *(5 class hrs/wk, 4 cr) Sp*

Introduces geology and the processes that have shaped Oregon's landscape. The course will provide an overview of the geologic processes that formed Oregon, including volcanoes and volcanic activity, plate tectonics, erosion and deposition by rivers, glaciers and oceans. The course includes a survey of the geology and geologic features of eight major physiographic provinces of Oregon. Field trips and hands-on labs involving Oregon rocks, minerals and maps are an important part of the instruction. Prerequisite: G 101 Introduction to Geology or G 102 Introduction to Geology. This course includes a laboratory component.

GA: GRAPHIC ARTS

Note: Specific courses may be under revision. Please check with an advisor for the latest information.

GA 3.153 Digital Illustration I
(3 class hrs/wk, 3 cr) F
Introduction to vector illustration applications. Adobe FreeHand MX is used to introduce shapes, paths, points, fills and gradients. There will also be class work on file management, printing and color. Corequisites: GA 3.156 Digital Page Layout I and GA 3.157 Digital Image Manipulation I.

GA 3.154 Digital Illustration II
(3 class hrs/wk, 3 cr) W
Continues to expand understanding of vector applications. Introduces Adobe Illustrator for creating shapes, paths, points, fills and gradients. The goal is to become more proficient at editing paths, placing (importing) objects, modifying text and manipulating layers. Prerequisite: GA 3.153 Digital Illustration I. Corequisites: GA 3.160 Digital Page Layout II; GA 3.161 Digital Image Manipulation II.

GA 3.155 Digital Illustration III
(3 class hrs/wk, 3 cr) Sp
Combines the use of both "industry standard" vector applications for creating original artwork. Students will gain a better understanding of vector illustration software and will learn to smoothly switch applications depending on current needs. Introduces the basic concepts of 3-D illustration using modeling. Discusses career opportunities. Coursework will include preparation of a portfolio for job searches or entry into the Graphic Arts program. Prerequisite: GA 3.154 Digital Illustration II, Corequisites: GA 3.168 Digital Page Layout III and GA 3.169 Digital Image Manipulation III.

GA 3.156 Digital Page Layout I
(3 class hrs/wk, 3 cr) F
Studies the preparation of mechanical art for printing. Stresses graphic arts terminology, tools and page layout techniques. Preparation of mechanicals using traditional and current technology. Introduces Adobe InDesign as a layout tool. Corequisites: GA 3.153 Digital Illustration I and GA 3.157 Digital Image Manipulation I.

GA 3.157 Digital Image Manipulation I
(3 class hrs/wk, 3 cr) F
Introduces Adobe Photoshop for image manipulation. Students will get an introduction to some of the many tools used in Photoshop. Investigates simple scanning techniques for different image types. There will be course work on manipulation of contrast, color file formats and file size management. Corequisites: GA 3.153 Digital Illustration I and GA 3.156 Digital Page Layout I.

GA 3.160 Digital Page Layout II
(3 class hrs/wk, 3 cr) W
Continued exploration of Adobe InDesign for digital page assembly and introduces QuarkXPress for the same purpose. Emphasizes production of digital mechanical files prepared to industry standard. Introduces the concept of preflighting documents, font management and the use of Adobe Acrobat for producing PDFs. Prerequisites: GA 3.156 Digital Page Layout I. Corequisites: GA 3.154 Digital Illustration II; GA 3.161 Digital Image Manipulation II.

GA 3.161 Digital Image Manipulation II
(3 class hrs/wk, 3 cr) W
Advances understanding of Photoshop controls and tools. Using clipping paths, adjustments, effects and layers to create high-end images. Class work includes filters, styles and automation. Prerequisites: GA 3.157 Digital Image Manipulation I. Corequisites: GA 3.154 Digital Illustration II and GA 3.160 Digital Page Layout II.

GA 3.162 Multimedia I
(3 class hrs/wk, 3 cr) F
Introduction to Web page design. Using industry standard software for the development of HTML based Web sites. Explore site definition, page layout, graphic creation and optimization and implementation of Web sites. Prerequisites: GA 3.155 Digital Illustration III; GA 3.168 Digital Page Layout III; GA 3.169 Digital Image Manipulation III; or instructor's approval.

GA 3.163 Multimedia II
(3 class hrs/wk, 3 cr) W
Continued discussion of Web design moving towards more complex and interactive software. Adding more powerful and dynamic elements to Web sites with animation and interactive software. An introduction to the development of interactive projects such as games, software and kiosks. Prerequisites: GA 3.162 Multimedia I or instructor's approval.

GA 3.168 Digital Page Layout III
(3 class hrs/wk, 3 cr) Sp
Continued exploration of QuarkXPress for advanced page assembly. Emphasizes production of digital mechanical files prepared to industry standard. Continues emphasis of preflighting documents, font management, and the use of Adobe Acrobat for producing PDFs. Course objective includes assembly of portfolio for work searches or entry into the Graphic Arts program. Prerequisite: GA 3.160 Digital Page Layout II. Corequisites: GA 3.155 Digital Illustration III and GA 3.169 Digital Image Manipulation III.

GA 3.169 Digital Image Manipulation III
(3 class hrs/wk, 3 cr) Sp
Culmination of image manipulation sequence. "Master" the tools of Adobe Photoshop for creating color correct, printable images. Introduction of web optimization for Photoshop images and Adobe Bridge usage for file management. Students will use channels for color correction and spot color exportation to other applications. Course work will include use of digital cameras; there will also be extended periods of creative freedom. Objective of class is to aid in assembly of portfolio for employment or entry into the Graphic Arts program. Prerequisite: GA 3.161 Digital Image Manipulation II. Corequisites: GA 3.155 Digital Illustration III, GA 3.168 Digital Page Layout III.

GA 3.181 Special Projects
(2–10 class hrs/wk, 1–6 cr) F/W/Sp
In coordination with the instructor, the student selects projects that provide practical experience within the major field. Note: May be taken for a maximum of six credits. Prerequisite: Instructor approval.

GEOG: GEOGRAPHY

GEOG 121 Physical Geography
(5 class hrs/wk, 4 cr) F
Provides liberal arts and non-science majors an introduction to the major physical subsystems of the planet earth. Topics studied include: weather, climate, climate change, climate classifications, plate tectonics, volcanism, earthquakes, erosion/deposition, glaciers, coastal processes, oceans, marine ecology. Maps and map use is introduced as an embeded skill. Prerequisite: College level reading and writing skills (WR 121) are strongly recommended for success in this course.

GEOG 202 World Geography: Latin America & Caribbean
(3 class hrs/wk, 3 cr) F
Analysis of Latin America/Caribbean according to physical features, environments, political divisions, cultural factors, and human activities/economies—emphasis on effect of geography on human culture.

GEOG 203 World Geography: Asia
(3 class hrs/wk, 3 cr)
Analysis of Asia according to physical features, environments, political divisions, cultural factors, and human activities/economies—emphasis on effect of geography on human culture.

GEOG 204 World Geography: Africa & Middle East
(3 class hrs/wk, 3 cr) Sp
Analysis of Africa and Middle East according to physical features, environments, political divisions, cultural factors, and human activities/economies—emphasis on effect of geography on human culture.

GS: GENERAL SCIENCE

GS 104 Physical Science: Principles of Physics
● *(5 class hrs/wk, 4 cr) W/Sp*
Survey course providing non-science majors a broad background in the fundamentals of physics. No previous science background required. May not be taken for credit if six or more hours of college-level physics have been completed. There is no restriction on the order in which the courses are taken. Prerequisite: MTH 065 Elementary Algebra or equivalent. This course includes a laboratory component.

GS 105 Physical Science: Principles of Chemistry
● *(5 class hrs/wk, 4 cr) F/W/Sp*
Survey course providing non-science majors a broad background in the fundamentals of chemistry. No previous science background required. May not be taken for credit if six or more hours of college-level chemistry have been completed. There is no restriction on the order in which the courses are taken. Prerequisite: MTH 065 Elementary Algebra or equivalent. This course includes a laboratory component.

GS 106 Physical Science: Principles of Earth Science
● *(5 class hrs/wk, 4 cr) F*
Survey course providing non-science majors a broad background in physical science. No previous science background required. Topics include atomic science, geology, atmospheric science and astronomy. Field trips highlight the topics discussed. There is no restriction on the order in which the courses are taken. This course includes a laboratory component.

GS 108 Oceanography
● *(5 class hrs/wk, 4 cr) F/W*
Introductory lab science course in oceanography that examines the four major categories of oceanographic study: geological, physical, chemical and biological. Emphasizes the geological and geophysical aspects of the sea floor; physical and chemical properties of sea water, waves, tides, ocean circulation and currents; marine ecosystems; and ocean utilization. Prerequisite: MTH 065 Elementary Algebra or equivalent. This course includes a laboratory component.

GS 111 Forensic Science
(5 class hrs/wk, 4 cr) As needed
Provides non-science majors an introduction to scientific methods and the limitations of scientific methods used in criminal investigations. Additionally the course is designed to help students discover the applications of science to the field of forensics, as well as provide elements of critical thinking. No previous science background is required. This course will demonstrate the interrelationships of chemistry, physics and biological sciences in the gathering of scientific information. This course will provide a means of illustrating, demonstrating, and analyzing natural phenomena and systems in both lecture and laboratory settings. Prerequisites: MTH 065 Elementary Algebra or equivalent, and pre/corequisite of CJ 101 or instructor's approval. This course includes a laboratory component.

GS 151 Energy in Society
• *(3 class hrs/wk, 3 cr) Sp*
Surveys the nature, history and use of energy. Analyzes traditional and alternative energy sources and their scientific, technical, environmental and economic aspects.

GS 152 Science, Technology and Society
• *(3 class hrs/wk, 3 cr) F/W/Sp*
Investigates the nature of scientific endeavors and analyzes specific science and technology issues that affect societies in the United States and globally.

GS 170 Field Ecology
• *(1–12 class hrs/wk, 1–3 cr)*
A variety of courses on the biology and ecology of the Northwest. Emphasizes field study of plants, animals, land, water and climate. Includes courses such as Alvord Desert Ecology, Cascade and Crater Lake Ecology, Coastal Ecology and Oregon Old Growth. Note: Most courses involve a weekend trip with pre- and post-trip evening meetings. May be taken as electives by transfer students, but also generally valuable for learning more about the environment.

GS 199 General Science: Special Studies
(1–12 class hrs/wk, 1–4 cr) As needed
Allows a student to investigate, with supervision from a faculty member, a topic of his/her interest at an individualized pace. Credit and projects are determined by the instructor and student.

GS 280B CWE Physical Science
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Designed to give students practical experience in supervised employment related to physical science. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

HD: HUMAN DEVELOPMENT

HD 100 College Success
(4 class hrs/wk, 3 cr)
Focuses on personal development and behaviors that promote success in college. Topics include communication skills, time management, stress management, goal setting, learning styles and resources for students.

HD 100A College Success
(10 class hrs, 1 cr)
Focuses on the qualities, traits and behaviors that create success in school and in life.

HD 100B College Success
(10 class hrs, 1 cr)
Development of personal skills and awareness that lead to success and college.

HD 110A Career Planning I
(1 class hr/wk, 1 cr)
Presents all aspects of becoming a college student and relates this information to the student's chosen career area. Students learn about the physical, emotional and intellectual requirements of being a college student at LBCC. The goal is to provide students with information that will facilitate informed decision making as they negotiate the first quarter of college life. Instructor approval required.

HD 110B Career Planning II
(1 class hr/wk, 1 cr)
This course gives students an opportunity to examine in some detail their chosen field of study and its demands. In addition, they will receive information about the work opportunities, wages, etc., that result from this field of study. These pieces of information will be paired with individual student interest and aptitude inventory data to help students make an informed decision to continue in this major. Instructor approval required.

HD 114 Life Planning
(2 class hrs/wk, 2 cr)
Presents skills in self-awareness, role alternatives, goal setting, plan implementation and development of resources. Includes theory, self-assessment and practical application.

HD 116 Human Potential
(2 class hrs/wk, 2 cr)
Focuses on developing skills to become more self-determining, self-affirming and empathic towards others. Personal strengths, motivation and goals are an integral part of this process.

HD 190 Assertiveness Training
(1 class hr/wk, 1 cr) F/W/Sp
Facilitates the learning of communication skills based on a foundation of respect for self, respect for others and respect from others.

HD 204 Eliminating Self-Defeating Behavior
(3 class hrs/wk, 3 cr)
Covers making choices that enhance quality of life, becoming aware of our self-defeating behavior, deciding whether to continue the behavior or change it, and discovering reasons and benefits for choosing this way.

HD 206 Coping Skills for Stress
(2 class hrs/wk, 2 cr) F/W/Sp
Provides information about causes and cures of stress from the point of view of self-talk and the power of our minds to reduce the impact of stress. The class is support oriented and is conducted as part lecture and part group process.

HD 208 Career/Life Planning
(3 class hrs/wk, 3 cr) F/W/Sp
Explores values, interests and skills helpful to individuals desiring directions or change in professional, personal and/or educational goals. This class is grounded in theory and includes experiential exercises, career assessment and information resources.

HD 208A Career Planning
(10 class hrs, 1 cr)
Students investigate personal career paths using career assessment tools and techniques and create a career plan.

HD 280S Service Learning
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify work-related learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisite: Approval by the appropriate faculty coordinator.

HDFS: HUMAN DEVELOPMENT AND FAMILY STUDIES

HDFS 200 Human Sexuality
■ *(3 class hrs/wk, 3 cr) W/Sp*
Discusses the biological, social and psychological aspects of human sexual functioning, within a scientific context. Topics include sexual anatomy, sexual response, gender identity, gender roles, sexual orientation, love, contraception, sexually transmitted infections and sexual coercion. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

HDFS 201 Contemporary Families in the U.S.
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
An introduction to families with application to personal life. Focuses on diversity in family structure, social class, race, gender, work and other social institutions.

HDFS 209 Practicum: Community Agencies
(7 class hrs/wk, 3 cr) Alternate years
Designed to provide students with practical experience in an agency or organization that serves children, youth, families and/or the elderly. Students participate in a weekly seminar and spend six hours per week working in a community agency.

HDFS 222 Partner and Family Relationships
(3 class hrs/wk, 3 cr) As needed
Students become familiar with different family structures and key processes such as communication, power, roles, affection and commitment. They understand how these processes emerge and change over the family life cycle. Students also examine the interface of family processes and social and work relationships.

HDFS 225 Child Development
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Describes basic issues, theories, and current research on child development and development within a family context. Studies the stages of development from conception through early childhood (age 8).

HDFS 226 Child Development: Stepping Stones
(3 class hrs/wk, 3 cr) As needed
A telecourse that explores how and why children grow and develop the way they do. Covers the interplay of biological factors, individual personality, the family and other environmental factors that shape the growing child. Topics include prenatal through adolescent development.

HDFS 229 School Age and Adolescent Development
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Focuses on the development of 5–18 year old children. All domains of development are covered: cognitive, emotional, language, moral, physical, social, spiritual and volitional. Includes topics for persons interested in working with children in this age range, e.g. curriculum design, school age care, building relationships and effective guidance.

HDFS 233 Professional Foundations in Early Childhood
(3 class hrs/wk, 3 cr) F/Sp
Focuses on current issues in working with children and families, e.g. developmentally appropriate practice, ethical issues, service delivery models and assessment practices. Includes the role of professional organizations and resources, family support and philosophical approaches in early childhood programs.

HDFS 242 Balancing School, Work and Family
(1 class hr/wk, 1 cr) Sp
Develop specific strategies for reducing stress in families by answering such questions as "What are my priorities? Do I spend my time and energy in satisfying ways? How can I make different choices regarding my roles as a worker and a family member?"

HDFS 248 Learning Experiences for Children
(3 class hrs/wk, 3 cr) F
Focuses on understanding how children learn and develop and on creating quality, age-appropriate curricula. Includes experiences with planning, implementing and evaluating materials and activities that promote language, cognitive, motor and social/emotional development. Emphasizes how to integrate subject matter and access Internet sites for curriculum development.

HDFS 249 Infant and Toddler Care
(3 class hrs/wk, 3 cr) Alternate years
Teaches the elements of quality care for infants and toddlers, including physical, social, emotional, cognitive, and language development, group care techniques and family/provider relationships.

HDFS 261 Working with Individuals and Families
(3 class hrs/wk, 3 cr) Sp/Alternate years
Develops professional skills and strategies to use when working with individuals and families in a variety of settings. The course focuses on skill building in several areas (written and verbal communication with clients and coworkers, workplace professionalism, identifying and accessing community resources) and explores issues relevant to student success in career goal achievement.

HDFS 280 CWE Child Development
(5–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Provides practical experience in a child and/or family education and/or support program. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Credits are based on identified objectives and number of hours worked. This is a supervised work experience that must be approved by the CWE coordinator prior to enrolling in the class.

HE: HEALTH

HE 110 First Aid and CPR
(9 class hrs/wk, 1 cr)
Prepares the student in basic first aid and adult CPR and provides information to properly administer the necessary immediate care to an injured or suddenly ill person. An emphasis is placed on early recognition of emergency medical situations and taking appropriate steps to stabilize the victim while activating the emergency medical services system.

HE 112 Emergency First Aid
(8 class hrs/wk, 1 cr)
Covers basic first aid information in an attempt to prepare the student to properly administer the necessary immediate care to an injured or suddenly ill person. Note: Full day or two evening classes.

HE 125 Occupational Safety and Health
(3 class hrs/wk, 3 cr)
Introduces the student to fundamentals of occupational health and safety in regard to accident causation theory and accident prevention, health and safety management, health and safety practices, hazard identification and control, safety history and legislation, workers' compensation practices, and practical aspects of complying with current safety regulations.

HE 151 Drugs in Society
(3 class hrs/wk, 3 cr)
Addresses the pharmacology of some popular drugs in Western society. Discusses contemporary issues involving the effects of drug use, misuse and abuse on the individual and society in general.

Non-Certificate/Non-Degree Courses Offered by the Family Resources and Education Division

9.930 Professional Issues in Child and Family Studies
(1 class hr /wk, 1 cr)
Includes legal and ethical issues in working with children and families, e.g. health and safety standards, licensing, adult:child ratios and child abuse reporting. Emphasizes being family focused. Includes professional organizations, advocacy training and accreditation preparation.

9.931 Health, Safety, Nutrition
(1 class hr/wk, 0 cr)
Provides basic information on health, safety issues and nutrition. Designed for practicing child care providers.

9.932 Child Development
(1 class hr/wk, 1 cr)
Information on child development for practicing child care providers. Focuses on the development of children ages birth through 13 years and the implications for practice in a child care setting.

9.934 Organization and Administration
(1 class hr/wk, 1 cr)
Information on enhancing child care as a business. Develop skills in professional planning, marketing, tax reporting, contracts and basic record keeping.

9.936 Curriculum Development
(1 class hr/wk, 1 cr)
Child care providers learn components of high-quality programming for children. Enhances the provider's ability to plan appropriate activities, equip the environment and obtain resources to meet the needs of children birth to 13 years.

9.938 Infant and Toddler Care
(1–3 class hrs/wk, 1–3 cr)
Family and center providers learn the elements of quality care for infants and toddlers. Emphasizes all areas of development: physical, social, emotional, cognitive and language. Includes group-care techniques, family/provider relationships and cultural diversity.

9.939 School Age Care
(1 class hr/wk, 1 cr)
Overview of care and education for those caring for school-age children. Focuses on child and adolescent development, curriculum design, business practices, marketing and staff development.

HE 204 Exercise and Weight Management
(3 class hrs/wk, 3 cr)
Provides students with scientifically based strategies for controlling and managing weight. Offers students an opportunity to design and monitor participation in a personal weight management program that includes individual assessments, nutritional awareness, emotional support, stress management and exercise. Students will explore social and cultural attitudes toward weight, obesity, eating and food disorders, food production and food marketing. Since exercise is one of the most crucial factors in healthy weight management, students are encouraged to register for a physical education activity class when they register for this class.

HE 205 Diet and Nutrition: Active Lifestyle
(3 class hrs/wk, 3 cr)
Students will take an in-depth look at their individual diet. Students will have the opportunity to analyze their current diet and prepare modifications that would improve it. Development of a diet that can improve physical performance and health will be emphasized.

HE 207 Stress Management
(3 class hrs/wk, 3 cr)
Students learn the theoretical and scientific basis for the various components of stress, the stress response and the relaxation response. Students learn how to recognize and cope appropriately with physical, occupational, social, school and environmental stressors. The course emphasizes achieving lifestyle balance and shows students how to develop and practice physiologic relaxation techniques and stress reduction methods.

HE 220 Introduction to Epidemiology and Health Data Analysis
(3 class hrs/wk, 3 cr)
Introductory course in epidemiology and the use of elementary statistics for students in health-related studies. Designed to provide preparatory background for taking subsequent courses in epidemiology and health data analysis offered by the Department of Public Health. Introduces measure of disease frequency, analytical epidemiology, study designs, experimental design, and basic elements of descriptive statistics and inferential statistics.

HE 225 Social and Individual Health Determinants
(3 class hrs/wk, 3 cr)
Provides students with an understanding of how social and individual factors and personal choices and behaviors contribute to health, premature death, disease and disability. Existing and emerging health problems and public health strategies and policies are examined.

HE 252 First Aid
(3 class hrs/wk, 3 cr)
Provides first aid instruction and practice in skills that enable students to take care of themselves and to aid others in the event of an accident or illness.

HE 253 AIDS and Sexually Transmitted Diseases
(3 class hrs/wk, 3 cr) F/W/Sp
Provides a fundamental understanding of HIV/AIDS and other sexually transmitted disease from a national and global perspective. The history, etiology, epidemiology and prevention strategies will be examined. The course will assist students in developing an understanding of diverse cultures, customs, attitudes, values and beliefs in the context of disease transmission and eradication.

HE 261 Cardiopulmonary Resuscitation (CPR)
(8 class hrs/wk, 1 cr)
Designed to teach the skills of CPR and relief of foreign body airway obstruction (FBAO) for victims of all ages. It is intended for participants who may need to perform CPR or airway obstruction techniques in a wide variety of settings.

HE 261A CPR for Professional Rescuers
(8 hrs/wk, 1 cr)
The Professional Rescuer course is designed to teach the skills of CPR for victims of all ages (including ventilation with a barrier device, a bag-mask device and oxygen), use of an automated external defibrillator (AED) and relief of foreign-body airway obstruction (FBAO). It is intended for participants who provide health care to patients in a wide variety of settings.

HE 263 Psychosocial Dimensions of Health
(3 class hrs/wk, 3 cr) W
Provides an overview of the mind body relationship and its effects on health and illness. Examines the social, psychological, cultural, attitudinal, behavioral and environmental factors that influence individual and public health.

HE 270 History, Philosophy and Ethics of Health
(3 class hrs/wk, 3 cr)
Considers the historical, philosophical and ethical foundation of health issues. Students explore contemporary values, issues and controversies surrounding current bioethical issues as they relate to the individual and societal health. Topics include treatment decisions, euthanasia, organ transplants, research on human subjects, genetic engineering, patients' rights, environment and distribution of resources.

HE 280 CWE Health
(6–42 class hrs/wk, 2–14 cr)
An instructional program designed to give students practical experience in supervised employment related to health. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

HORT: HORTICULTURE

See HT.

HS: HUMAN SERVICES

HS 205 Youth Addiction
(3 class hrs/wk, 3 cr) As needed
Designed to assist students in working with youth who are chemically dependent. Includes prevention, intervention, assessment, individual, group and continuing recovery techniques.

HST: HISTORY

HST 101 History of Western Civilization
■ *(3 class hrs/wk, 3 cr) F*
Surveys the origins and development of western civilization from its beginning through the High Middle Ages. Includes the civilizations of Mesopotamia, Egypt, Greece, and Rome, and the emergence of Europe during the early Middle Ages. Prerequisite: College-level reading and writing (WR 121) are strongly recommended for success in this course.

HST 102 History of Western Civilization
■ *(3 class hrs/wk, 3 cr) W*
Surveys western civilization from the Middle Ages through the American and French Revolutions. Other topics are the Renaissance, the Scientific Revolution, and the Enlightenment. Prerequisite: College-level reading and writing (WR 121) are strongly recommended for success in this course.

HST 103 History of Western Civilization
■ *(3 class hrs/wk, 3 cr) Sp*
Surveys western civilization from the Industrial Revolution through the modern era. Also includes Romanticism, the Revolutions of 1830 and 1848, Imperialism, World Wars I and II and the Cold War. Prerequisite: College-level reading and writing (WR 121) are strongly recommended for success in this course.

HST 150 Science and Culture in Western Tradition
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Surveys the history of western civilization from the perspective of developments in science and technology. Emphasizes the interaction between scientific developments and cultural developments.

HST 157 History of the Middle East and Africa
■ *(3 class hrs/wk, 3 cr) As needed*
Surveys the cultural, social, economic and political development in the Middle East and Africa. Prerequisite: College-level reading and writing (WR 121) are strongly recommended for success in this course.

HST 158 History of Latin America
■ *(3 class hrs/wk, 3 cr) W*
Surveys the cultural, social, economic and political development of Latin America. Prerequisite: College-level reading and writing (WR 121) are strongly recommended for success in this course.

HST 159 History of Asia
■ *(3 class hrs/wk, 3 cr) As needed*
Surveys the cultural, social, economic and political development of Asia. Prerequisite: College-level reading and writing (WR 121) are strongly recommended for success in this course.

HST 198 Research Topics
(1 class hr/wk 1 cr) F/W/Sp
Examines in-depth history topics for independent research. Corequisite: WR 123 English Composition.

HST 201 U.S. History: Colonial and Revolutionary
■ *(3 class hrs/wk, 3 cr) F*
Provides an overview of the United States from pre-Columbian North American and European antecedents to colonization, Colonial America, Revolutionary America; development of U.S. government, economy and society to 1830. Prerequisite: College-level reading and writing (WR 121) are strongly recommended for success in this course.

HST 202 U.S. History: Civil War and Reconstruction
■ *(3 class hrs/wk, 3 cr) W*
Provides an overview of the history of the United States from 1830 to 1900. Includes national expansion, sectionalism, the Civil War and Reconstruction. Concludes with the second Industrial Revolution and its effects. Prerequisite: College-level reading and writing (WR 121) are strongly recommended for success in this course.

HST 203 U.S. History: Rise to World Power
■ *(3 class hrs/wk, 3 cr) Sp*
Provides an overview of the United States in the 20th century. Examines the rise to global power, World Wars I and II, civil rights, labor, women's rights and the Cold War. Prerequisite: College-level reading and writing (WR 121) are strongly recommended for success in this course.

HST 240 War and the Modern World
■ *(3 class hrs/wk, 3 cr) As needed*
The evolution of the conduct of war in the 19th and 20th centuries as a reflection of social, political and technological developments. Basic course offering for the Peace Studies Program.

HST 280 CWE History
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
An instructional program designed to give students practical experience in supervised employment related to history. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

HST 280S Service-Learning History
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisites: Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their Service-Learning approved by the appropriate faculty coordinator.

HT and HORT: HORTICULTURE

HORT 199 Horticulture: Special Studies
(1–9 class hrs/wk, 1–3 cr) F/W/Sp
Allows a student to investigate, with supervision from a faculty member, a topic of his/her interest at an individualized pace. Credits and projects will be determined jointly by the instructor and the student.

HORT 226 Landscape Plant Materials
(4 class hrs/wk, 3 cr) F/Alternate years
Identification of trees, shrubs, vines and groundcovers used in landscape horticulture; their use in plant composition.

HORT 228 Horticulture: Landscape Plant Materials
(4 class hrs/wk, 3 cr) Sp
Includes identification of trees, shrubs, vines and ground covers used in landscape horticulture and their use in plant composition.

HORT 260 Organic Farming and Gardening
(4 class hrs/wk, 3 cr) Sp
Organic farming and gardening methods are discussed in class and practiced in the field. The philosophical background of organic farming as well as the biological, environmental and social factors involved in organic food production are covered. Emphasis is on hands-on application of scientific principles to create sustainable food production systems.

HT 8.102 Career Exploration: Horticulture
(1 class hrs/wk, 1 cr) W
Surveys career opportunities in horticulture. A report on a specific career position is required. Includes résumé writing and job search skills.

HT 8.115 Greenhouse Management
(4 class hrs/wk, 3 cr)
Introduces greenhouse management emphasizing practical applications in the horticulture industry. Topics include growing structures and environment, root media containers, watering, plant nutrition, pest management and plant growth. Includes an interview with a greenhouse operator.

HT 8.132 Arboriculture I
(4 class hrs/wk, 3 cr) W/Alternate Years
Introduces ornamental horticulture, including how to plant, train, prune, protect and repair trees. Offered winter 2009.

HT 8.133 Arboriculture II
(4 class hrs/wk, 3 cr) Sp/Alternate Years
An advanced course of study for students and practitioners of ornamental horticulture who need to know how to select, plant, train, protect, fertilize, and provide ongoing care for trees in the landscape. Class provides excellent preparation for the ISA Certified Arborist and Tree Worker certification exams. Students must sign an LBCC Liability Waiver before participating in the lab. Lab activities include actual tree care practices on campus. Offered spring 2009. Prerequisite: Aboriculture I or instructor approval.

HT 8.135 Turf Management I
(4 class hrs/wk, 3 cr) W/Alternate Years
Introduces and develops the art and science of turf-grass culture. Grass identification and maintenance; fertilizer and water requirements; weed, insect and disease identification and control; and other turf problems are emphasized. Offered winter 2008.

HT 8.136 Turf Management II
(4 class hrs/wk, 3 cr) Sp/Alternate Years
Provides opportunity to adapt and apply principles and theories taught in HT 8.135 Turf Management I. Includes business practices and procedures and field trips to observe common practices, maintenance and management of turf areas. Offered spring 2008.

HT 8.137 Plant Propagation
(6 class hrs/wk, 4 cr) Sp
Introduces the principles, methods, techniques and facilities used to propagate ornamentals. Techniques covered include seeding, grafting, cuttings, divisions and tissue culture. Lab activities utilize the LBCC Greenhouse. Students are responsible for the annual plant sale.

HT 8.139 Arboriculture Practicum
(3 class hrs/wk, 2 cr) Sp
Gives practical field experience in climbing and tree work. Taught by certified arborists, emphasizing safety and skill. Note: Limited enrollment. Requires personal protective equipment. Prerequisites: Instructor's approval.

HT 8.140 Landscape Maintenance
(5 class hrs/wk, 3 cr) F/Alternate Years
Introduces principles, methods, techniques and use of equipment for maintenance of landscape and turf areas. Course offered alternate years only. Offered Fall 2007.

HT 8.141 Landscape Planning
(5 class hrs/wk, 3 cr) W
Surveys basic layout and design, site utilization and orientation of landscape facilities. Includes landscape contours, grading, trees, shrubs, plant selection and utilization. Prerequisite: HORT 228 Landscape Plant Materials or instructor approval.

HUM: HUMANITIES

HUM 101 Introduction to Humanities: Prehistory, Mediavalism and World Beyond
➢ *(3 class hrs/wk, 3 cr) F*
Examines creativity, ideas, and culture through study of selected works and artifacts from Western and non-Western cultures, drawn from art, architecture, literature, philosophy, drama, music, dance and theater, as reflections of and influences on social and cross-cultural change. Attendance at out-of-class activities is required. HUM 101: Prehistory, Medievalism and World Beyond; HUM 102 Renaissance, Faith and Reason in Global Encounter; HUM 103 Modernism, Globalism & Information Age. Courses may be taken individually and/or in any order. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

HUM 102 Introduction to Humanities: Renaissance, Faith and Reason in Global Encounter
➢ *(3 class hrs/wk, 3 cr) W*
Examines creativity, ideas, and culture through study of selected works and artifacts from Western and non-Western cultures, drawn from art, architecture, literature, philosophy, drama, music, dance and theater, as reflections of and influences on social and cross-cultural change. Attendance at out-of-class activities is required. HUM 101: Prehistory, Medievalism and World Beyond; HUM 102 Renaissance, Faith and Reason in Global Encounter; HUM 103 Modernism, Globalism & Information Age. Courses may be taken individually and/or in any order. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

HUM 103 Introduction to Humanities: Modernism, Globalism and Information Age
➢ *(3 class hrs/wk, 3 cr) Sp*
Examines creativity, ideas, and culture through study of selected works and artifacts from Western and non-Western cultures, drawn from art, architecture, literature, philosophy, drama, music, dance and theater, as reflections of and influences on social and cross-cultural change. Attendance at out-of-class activities is required. HUM 101: Prehistory, Medievalism and World Beyond; HUM 102 Renaissance, Faith and Reason in Global Encounter; HUM 103 Modernism, Globalism & Information Age. Courses may be taken individually and/or in any order. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

HV: HEAVY EQUIPMENT/DIESEL

HV 3.123 Fundamental Shop Skills
(4 class hr/wk, 3 cr)
Gives the student practical working knowledge of safety in the trade areas of employment. Uses safety regulatory agencies as a foundation, and also includes fork lift training. Prerequisite: Instructor signature required.

HV 3.129 Heavy Equipment/Diesel Engines
(12 class hrs/wk, 1–7 cr)
Covers the operating principles, maintenance, repair and overhaul of various types and sizes of diesel engines. Diesel engines, their component parts and related accessories are studied in depth. In conjunction with this is the study of manufacturers' specifications as they pertain to correct engine operation, performance and emissions. Prerequisite: Placement test scores at RD 080 Developing Reading Skills, MTH 020 Basic Mathematics, and instructor signature required.

HV 3.130 Heavy Equipment/Diesel Tune-Up
(20 class hrs/wk, 1–10 cr)
Capstone class that introduces diesel tune-up and techniques for optimum engine performance including diagnostic troubleshooting, engine break-in procedure through use of the dynamometer. The student will use all of the critical thinking skills they have learned in the past classes to solve real world problems on mechanical and computer managed engines and trucks. This class also includes the ITS diesel club. Prerequisite: Placement test scores at RD 080 Developing Reading Skills, MTH 020 Basic Mathematics and instructor signature required.

HV 3.132 Advanced Mobile Hydraulics
(8 class hrs/wk, 5 cr)
Covers advanced hydraulic theory along with service and repair of valves, pumps, motors and connectors used in mobile equipment hydraulic systems. Systems design and modification will be covered. Machine systems will be learned using hydraulic schematic drawings. Common customer concerns with specific heavy equipment and their solutions will be learned. Operational check out and laptop computer testing of heavy equipment will be performed in labs, as well as repair and adjustment, and electronic controls. Prerequisite: HV 3.134 Basic Hydraulics and instructor signature required.

HV 3.134 Basic Hydraulics
(5 class hrs/wk, 3 cr)
Covers hydraulic theory along with pump, actuator application, and valve design and theory. Prerequisite: Instructor signature required.

HV 3.140 Industrial Diesel Engine Fuel Systems
(4 class hrs/wk, 1–3 cr)
Covers the theory, repair, testing and calibration of diesel fuel injection pumps, governors and injector assemblies. The class will be taught giving as much time for hands on as possible. Prerequisite: Instructor signature required.

HV 3.146 Pneumatic Brakes and Controls
(10 class hrs/wk, 1–5 cr)
Acquaints the student with the theory and application of pneumatic braking systems. The student will learn to service, diagnose and repair ABS, foundation, accessory and safety air systems. Prerequisite: Placement test scores at RD 080 Developing Reading Skills, MTH 020 Basic Mathematics; instructor signature required.

HV 3.295 Power Train Systems
(20 class hrs/wk, 1–10 cr)
Studies include power train terminology, theory and operation, driveshaft function and construction, maintenance practices, power train schematics, troubleshooting and failure analysis, and component rebuild and replacement. Prerequisite: Placement test scores at RD 080 Developing Reading Skills, MTH 020 Basic Mathematics, and instructor signature required.

HV 3.296 Steering, Suspension and Brakes
(10 class hrs/wk, 1–5 cr)
Covers the theory and operation of heavy duty steering and suspension systems, alignment and brakes. Diagnostic and service techniques are taught with the use of components and vehicles. Learning strategies include multi-media presentations, discussion research and lab practice. Prerequisite: Placement test scores for RD 080 Developing Reading Skills, MTH 020 Basic Mathematics, and instructor signature required.

HV 3.297 Electrical and Electronic Systems
(20 class hrs/wk, 1–10 cr)
Introduces the theory, application and diagnosis of the electrical and electronic control systems for modern vehicles. Emphasis is placed on batteries, starting, charging, lighting, accessories and driver information systems. Preparation for ASE certification in electrical/electronic systems. Prerequisite: Placement test scores for RD 080 Developing Reading Skills, MTH 020 Basic Mathematics, and instructor signature required.

HV 3.303 Mobile Air Conditioning and Comfort Systems I
(5 class hrs/wk, 3 cr)
Principles of mobile heating and air conditioning systems with an emphasis on design, function, adjustment, service and testing of components. Prerequisite: HV 3.297 Electrical and Electronic Systems, and instructor signature required.

HV 3.643 Customer Service
(2 class hr/wk, 2 cr)
This course is designed to help students develop outstanding customer service skills in a dealership setting serving clients/customers. Students will learn how to interact with customers (communicating in person), resolve conflicts, maintain records, understand the importance of customer satisfaction/retention, actively participate as a member of a team, and develop time management skills. Prerequisite: Placement test scores for RD 080 Developing Reading Skills, MTH 020 Basic Mathematics and instructor signature required.

IN: INDUSTRIAL TECHNICAL

IN 1.197 Introduction to Industrial Computers
(2 class hrs/wk, 1 cr) W
Introduces students to basic applications of computers in industry; a variety of applications including Windows, Word, Excel, AutoCAD, and PLC programming basics. Students will have hands-on opportunities with these applications and will be able to identify strengths and weaknesses.

JN: JOURNALISM

JN 134 Introduction to Photojournalism
(4 class hrs/wk, 3 cr) Sp
Introduces photojournalism techniques such as digital imaging, films, equipment, light and reproduction. Covers conventional and electronic darkroom techniques and issues. Students study the history of documentary photography and analyze the effect of image content on audiences. Includes lab work. Prerequisite: ART 261 Introduction to Photography with a grade of "B" or better or instructor's approval.

JN 201 Media and Society
(4 class hrs/wk, 4 cr) F/W
Studies the history, development, technology and social impact of the various mass media. Includes critical analysis of media practice and ethics, the study of significant figures and developments, and the examination of the media as channels of expression in popular culture.

JN 215A Journalism Lab
(2 class hrs/wk, 1 cr) F/W/Sp
Offers supervised editorial work on the college's student newspaper (The Commuter) in reporting and editing. Provides training and experience with computerized word processing. Note: Course serves as the lab for JN 216 News Reporting and Writing and JN 217 Feature Writing. May be taken independently from those courses. May be repeated for up to six credits.

JN 215B Design and Production Lab
(4 class hrs/wk, 2 cr) F/W/Sp
Offers supervised experience in newspaper page design, headline writing, computer pagination, digital imaging, photography, advertising and related newspaper production skills. Students apply skills in production lab for the college's student newspaper (The Commuter). May be repeated for up to six credits.

JN 216 News Reporting and Writing
(3 class hrs/wk, 3 cr) F/W
Introduces basics of reporting and journalistic writing, including news style, grammar and story structure. Students also study journalism history, literature, ethics, law and critical thinking as applied to information gathering. Corequisite: JN 215A Journalism Lab.

JN 217 Feature Writing
(3 class hrs/wk, 3 cr) Sp
Covers various forms of nonfiction writing, including profiles, human interest, travel and analysis, with emphasis on backgrounding, depth reporting, descriptive writing and free-lance marketing. Continues examination of issues in journalism history, literature, ethics and law. Special attention to the literary journalism form. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course. Corequisite: JN 215A Journalism Lab.

JN 280 CWE Journalism
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
An instructional program designed to give students practical experience in supervised journalism-related employment. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

MA: MACHINE TOOL

MA 3.396 Manufacturing Processes I
(12 class hrs/wk, 6 cr) F
Provides training in the skills necessary to pursue a career in the machinist's trade. The lecture portion of Manufacturing Processes I introduces students to the fundamentals of good machining practices; theory/practical considerations are covered. In the laboratory aspect of this course each student completes a series of projects that emphasize safe operation of machine tools. The safety aspect of the course includes:

- Prevention of accidents, injuries and illness at the work site.
- Measures that provide protection from exposure to hazards and hazardous materials.
- Legal obligations mandated by OR-OSHA that directly relate to future occupations.

MA 3.396B Manufacturing Processes I
(3 class hrs/wk, 2 cr) F/W/Sp
This course provides training and learning experiences in basic machining operations. Students will be using the lathe, milling machine and other machine tools to complete a project. The finished projects are used to participate in a contest; judging is based on performance, craftsmanship and technology utilization. Students are required to demonstrate some design responsibilities. Skills for successful employment are emphasized.

MA 3.397 Manufacturing Processes II
(12 class hrs/wk, 6 cr) W
Provides machine tool technology training and learning opportunities at an intermediate level. Instruction will be given in the safe and efficient operation of machine tools. Theory and practical considerations will be covered. Environmental awareness information is included in this course. Prerequisite: MA 3.396 Manufacturing Processes I or instructor approval.

MA 3.397B Manufacturing Processes II
(3 class hrs/wk, 2 cr) F/W/Sp
This lecture/lab course provides machine tool technology training and learning opportunities at an intermediate level. Instruction will be given in the safe and efficient operation of machine tools. Theory and practical considerations will be covered. Environmental awareness information is included in this course. Prerequisite: MA 3.396B Manufacturing Processes I or instructor approval.

MA 3.398 Manufacturing Processes III
(12 class hrs/wk, 6 cr) Sp
Focuses on advanced machine tool operation. Determining machine tool selection, set-up and planning for multi-tool projects will be covered. Shop math, including trigonometry and elementary algebra will be used to make calculations. Students will complete a series of advanced machining projects. A career specialist will deliver information about job search skills. Prerequisite: MA 3.397 Manufacturing Processes II.

MA 3.398B Manufacturing Processes III
(3 class hrs/wk, 2 cr) F/W/Sp
This lecture/lab course focuses on advanced machine tool operation. Determining machine tool selection, setup and planning for multi-tool projects will be covered. Shop math, including trigonometry and elementary algebra, will be used to make calculations. Students will complete a series of machining projects. This course includes instruction on basic computer numerical control (CNC) machining and turning. Prerequisite: MA 3.397B Manufacturing Processes II or instructor approval.

MA 3.405 Inspection I
(2 class hr/wk, 2 cr) F
This course provides training and learning opportunities in the science of measurement as it relates to manufacturing. The correct use of measuring tools to collect data at logical intervals throughout the manufacturing process will be covered. Students will be introduced to some of the practical considerations that relate to size, tolerance and other specifications.
The measuring tool we will be studying include inch and metric rulers, micrometers, dial and digital calipers, the surface plate, sine bars, gage blocks and the combination set.

MA 3.406 Inspection II
(3 class hrs/wk, 3 cr) W
This course provides training in measurement as it relates to manufacturing. We will also cover the following subjects: geometric dimensioning and tolerancing (GD&T), surface plate inspection methods, precision height

gage, optical comparator, using gage pins and a micrometer to measure dovetails, portable surface roughness gage, hardness testing, and coordinate measuring machines. Prerequisite: MA 3.405 Inspection I or instructor approval.

MA 3.407 Mathematics for NC Machinists
(1 class hr/wk, 1 cr) F
Provides mathematics training for NC machinists and programmers. Scientific calculator functions, basic algebra, right angle trigonometry, geometry and the Cartesian coordinate system as it applies to CNC machining will be covered.

MA 3.409 Introduction to CNC
(2 class hrs/wk, 2 cr) F
Introduces students to computer numerical control.

MA 3.412 Cam 1
(4 class hrs/wk, 4 cr) W
Provides training and learning experiences in Mastercam mechanical design automation application software. This software makes it possible for designers to quickly sketch out ideas, experiment with features and dimensions, and produce models and detailed drawings. This is the first course in the SolidWorks series.

MA 3.413 Lean Manufacturing and Productivity
(2 class hr/wk, 2 cr) F
Provides training in lean manufacturing strategies and proven techniques for increasing output while reducing manufacturing costs.

MA 3.414 Tool Technology
(1 class hr/wk, 1 cr) F
Helps meet the need in industry for machinists that are trained in carbide insert identification and applications.

MA 3.416 CNC: Special Projects
(2–6 class hrs/wk, 1–3 variable credit) Sp
Provides advanced computer numerical control (CNC) training. Students will have some design responsibilities as well as design for manufacturing responsibilities as they complete projects. Careful planning, good machining practices, economic/business concerns, documentation and safety will be emphasized. Prerequisite: MA 3.420 CNC: Mill, MA 3.421 CNC: Lathe, MA 3.427 Introduction to Solid Design Manufacturing, MA 3.427 Solid Works I, equivalent experience, or instructor approval.

MA 3.420 CNC: Mill
(6 class hrs/wk, 4 cr) W
Provides training in the operation and part programming of the modern vertical machining center. Students learn safe manufacturing methods by completing a series of assignments using one of two Haas vertical machining centers. Students will gain experience reading, writing and editing part programs using industry standard G & M code programming.

MA 3.421 CNC: Lathe
(6 class hrs/wk, 4 cr) Sp
Introduces students to a modern CNC turning center and part programming using industry standard ISO/EIA machine code for the Fanuc controller. Students turn aluminum parts to specifications on a Hitachi Seiki CNC Lathe. Safety procedures are emphasized. Prepares students for mastery of the two axis lathe coordinate plane. Prerequisite: MA 3.396 Manufacturing Processes I or instructor approval.

MA 3.427 Solid Works I
(3 class hrs/wk, 3 cr)
Provides advanced training and learning experiences in Solid Works mechanical design automation application software. This software makes it possible for designers to quickly sketch out ideas, experiment with features and dimensions, and produce models and detailed drawings.

MA 3.428 Solid Works II
(3 class hrs/wk, 3 cr)
Provides advanced training and learning experiences in Solid Works mechanical design automation application software. This software makes it possible for designers to quickly sketch out ideas, experiment with features and dimensions, and produce models and detailed drawings. This course is the second in the series. Prerequisite: MA 3.427 Solid Works I or instructor approval.

MA 3.431 Basic Print Reading: Metals
(2 class hrs/wk, 2 cr) F
Provides training in interpreting blueprints.

MA 3.432 Introduction to Mastercam
(3 class hrs/wk, 3 cr) F
Introduction to Mastercam provides training on the use of Mastercam CAD/CAM software to design parts and toolpaths for a modern CNC vertical machining center. Students complete a series of exercises that progress from designing a two-dimensional part and creating a contour toolpath to more advanced CNC mill applications. Safety and efficient machining will be stressed throughout the course.

MA 3.433 Mastercam II: Surfaces
(3 class hrs/wk, 3 cr) W
Second course in the three-course Mastercam series. Students complete a series of exercises that include building more advanced surface toolpaths. Prerequisite: MA 3.432 Introduction to Mastercam or instructor approval.

MA 3.434 Mastercam III: Solids
(3 class hrs/wk, 3 cr) Sp
Third course in the mastercam series. Introduces students to solid modeling as it relates to CAD/CAM/CNC technology. Practical examples of current manufacturing methods are used for the exercises. Students are encouraged to assume design responsibility when working through projects. Prerequisite: MA 3.433 Mastercam II: Surfaces.

MA 3.437 Materials Science
(4 class hrs/wk, 3 cr) Sp
This course investigates the relationships that exist between structures and the properties of materials. The study of atomic structure and chemical makeup provides the basis for material classification. The subjects of bonding forces and crystal structures are explored. Lecture topics include dislocations, strengthening mechanisms, slip systems, phase transformations and plastic deformation in polycrystalline materials. The mechanical properties of metals are a major focus in the lecture, demonstration and laboratory aspects of this course. Other topics include the applications and processing of metals, ceramics, polymers as well as composites. Students will use finite element analysis to create computer simulations to test various materials for suitability of specific applications. The emphasis is on ferrous and non-ferrous alloys. Prerequisite: MA3.396 Manufacturing Processes I, MTH 060 Introduction to Algebra or above, and reading level RD 090 Strategies for Effective Reading or above.

MO: MEDICAL OFFICE

MO 5.414 Drug Names and Classifications
(3 class hrs/wk, 3 cr) W/Sp
Prepares student training to work as a member of a health care team to effectively communicate pharmaceutical information to a variety of health care professionals, using correct spelling and pronunciations of selected pharmaceuticals, which help ensure patient safety in pharmaceutical usage. Prerequisite: MO 5.630 Medical Terminology and Body Systems I or equivalent experience.

MO 5.532 Medical Terminology/Phlebotomists
(2 cr) As Needed
Phlebotomy students will learn basic medical language in written and oral forms to communicate as members of a health care professional team and to understand the basics of physician's diagnosis and treatment that influence blood draws.

MO 5.550 Human Relations in Health Care
(3 class hrs/wk, 3 cr) F
Prepares students to understand the mental process and behaviors of individuals in the medical office.

MO 5.625 Basic Clinical Office Procedures
(8 hrs/wk, 5 cr) F
Students prepare patient, assist medical personnel, and provide aseptic environments in ambulatory care settings. Prerequisite: MO 5.632 Medical Terminology and Body Systems III. Enrollment in Administrative Medical Assistant or Medical Assistant programs.

MO 5.626 Advanced Clinical Office Procedures
(8 class hrs/wk, 5 cr) W
Continuation of Basic Clinical Office Procedures. Medical assistant students will assist, perform and document advanced, invasive and sterile procedures using standard precaution guidelines without causing undo harm or discomfort to patients. Prerequisite: MO 5.625 Basic Clinical Office Procedures; OA 2.515MA Business Math Medical II.

MO 5.630 Medical Terminology and Body Systems I
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Prepares students to use basic medical language in written and oral form to communicate as a member of a health care professional team and understand the basics of physician's diagnosis and treatment.

MO 5.631 Medical Terminology and Body Systems II
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Prepares students to use an expanded medical vocabulary to communicate with health care professionals. Learn to recognize the structure and function of the human body, basic pathology and diagnostic tools. Prerequisite: MO 5.630 Medical Terminology and Body Systems I.

MO 5.632 Medical Terminology and Body Systems III
(3 class hrs/wk, 3 cr) F/W/Sp/Su
This course builds upon Medical Terminology and Body Systems I and II to provide a comprehensive knowledge of medical terminology. Students will communicate, document, and comprehend terminology as it pertains to medical specialties, reports and patient data. Prerequisite: MO 5.631 Medical Terminology and Body Systems II.

MO 5.640 Administrative Externship
(9 class hrs/wk, 1–3 cr) F/W/Sp
Students apply all major medical administrative competencies and concepts learned in the curriculum to a real-world experience in local medical facilities. Prerequisite: All administrative courses must be completed prior to entering externship. Prior work experience will be evaluated on an individual basis.

MO 5.641 Clinical Externship
(18 class hrs/wk, 1–6 cr) F/W/Sp
Students apply all major clinical competencies and concepts learned in the two-year medical assistant program to a real-world experience in local medical facilities. Prerequisite: MO 5.640 Administrative Externship.

MO 5.650 Basic Electrocardiography Techniques
(1 class hrs/wk, 1 cr) W
Prepares the medical assistant to perform electrocardiograms in the clinical setting. Prerequisites: Enrollment in the Medical Assisting program; MO 5.625 Basic Clinical Office Procedures.

MO 5.655 Phlebotomy for Medical Assistants
(3 class hrs/wk, 2 cr) F
Medical assistant students will collect patient blood samples without undo harm to the patient and without compromising the integrity of the sample. Prerequisites: Enrollment in the Medical Assisting program; MO 5.625 Basic Clinical Office Procedures.

MO 5.661 Physician's Office Laboratory Procedures
(4 class hrs/wk, 3 cr) F
Medical assistant students will perform CLIA-waived tests in a physician's office laboratory using quality control and practicing safety precautions. Prerequisite: MO 5.631 Medical Terminology and Body Systems II. Corequisite: MO 5.625 Basic Clinical Office Procedures; enrollment in Medical Assisting program.

MO 5.662 Preparation for Certifying Exam (Clinical)
(1 class hr/wk, 1 cr) Sp
Medical assistant students review clinical competencies to prepare for the national certification exam administered by the American Association of Medical Assistants. Prerequisite: Must be enrolled in MO 5.641 Clinical Externship of the Medical Assistant Program.

MO 5.665 Documentation and Screening in the Medical Office
(2 class hrs/wk, 2 cr) W/Sp
Prepares medical office personnel to answer telephone, assess and document conversation, and disseminate information in an ambulatory care setting. Develops and uses a physician-authorized telephone screening manual. Prerequisite: MO 5.630 Medical Terminology and Body Systems I and OA 202 Word Processing for Business: MS Word. Corequisite: OA 2.671 Medical Law and Ethics.

MP: MUSICAL PERFORMANCE

Each MP class may be taken three times for credit.

MP 101 Symphonic Band
(3 class hrs/wk, 1 cr) W/Sp/F
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a symphonic band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 102 Concert Band
(3 class hrs/wk, 1 cr) F/W/Sp
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a concert band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 103 Marching Band
(3 class hrs/wk, 1 cr) F
Provides opportunity for participation in a marching band in conjunction with the Oregon State University Department of Music. This performance group of more than 160 musicians performs for home football games as well as one trip each year to an off-campus game. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 104 Pep Band
(1.5 class hrs/wk, 1 cr) W
Instrumental performing group concentrating on rock, pop and contemporary styles in the small- to medium-size group setting. Provides an opportunity for performance and participation in the OSU Basketball Pep Band in conjunction with the Oregon State University Department of Music. Note: Each class may be taken three times for credit. May require an audition. An unsuccessful audition will require disenrollment.

MP 105 Jazz Band
(2 class hrs/wk, 1 cr) Sp
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a jazz band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 122 Concert Choir
(3 class hrs/wk, 2 cr) F/W/Sp
Concert choir is a traditional choral performance class that includes the singing of a wide range of choral music from around the world. Participation in final concert is required. Audition for vocal placement.

MP 131 Chamber Choir
(3 class hrs/wk, 2 cr) F/W/Sp
Chamber choir is a performing group that includes the singing and performing of advanced choral literature, including madrigals, motets, jazz arrangements and music theater. Students will develop high-level sight reading and aural skills. Includes a number of off-campus performances as well as final concert. Prerequisite: Audition to demonstrate vocal ability, sightreading, aural skills; recommended: take concurrently with MP 122 Concert Choir.

MP 141 Symphony Orchestra
(3 hrs/wk, 1 cr) F/W/Sp
In conjunction with the Oregon State University Department of Music, provides opportunity for participation in a symphony orchestra. This large ensemble of 65–80 players performs orchestra repertoire from the 18th, 19th and 20th centuries. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 151 Rehearsal and Performance
(3–20 class hrs/wk, 1–3 cr) F/W/Sp/Su
Offers credit for music rehearsal directly related to Performing Arts Department performance. Prerequisite: Instructor approval.

MP 171 Individual Lessons: Piano
(1 cr) F/W/Sp/Su
Provides individual instruction in piano. Note: Requires additional tutorial fee.

MP 174 Individual Lessons: Voice
(1 cr) F/W/Sp
Provides individual instruction in voice. Note: Requires additional tutorial fee.

MP 181 Individual Lessons: Flute
(1 cr) F/W/Sp/Su
Provides individual instruction in flute. Note: Requires additional tutorial fee.

MP 201 Symphonic Band
(3 class hrs/wk, 1 cr) F/W/Sp
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a symphonic band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 202 Concert Band
(3 class hrs/wk, 1 cr) F/W/Sp
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a concert band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 203 Marching Band
(3 class hrs/wk, 1 cr) F
Provides opportunity for participation in a marching band in conjunction with the Oregon State University Department of Music. This performance group of more than 160 musicians performs for home football games as well as one trip each year to an off-campus game. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 204 Pep Band
(1.5 class hrs/wk, 1 cr) W
Instrumental performing group concentrating on rock, pop and contemporary styles in the small- to medium-size group setting. Provides an opportunity for performance and participation in the OSU Basketball Pep Band in conjunction with the Oregon State University Department of Music. Note: Each class may be taken three times for credit. May require an audition. An unsuccessful audition will require disenrollment.

MP 205 Jazz Band
(2 class hrs/wk, 1 cr) Sp
In conjunction with the Oregon State University Department of Music, provides an opportunity for participation in a jazz band. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 222 Concert Choir
(3 class hrs/wk, 2 cr) F/W/Sp
Concert choir is a traditional choral performance class that includes the singing of a wide range of choral music from around the world. Participation in final concert is required. Audition for vocal placement.

MP 231 Chamber Choir
(3 class hrs/wk, 2 cr) F/W/Sp
Chamber choir is a performing group that includes the singing and performing of advanced choral literature, including madrigals, motets, jazz arrangements and music theater. Students will develop high-level sight reading and aural skills. Includes a number of off-campus performances as well as final concert. Prerequisite: Audition to demonstrate vocal ability, sightreading, aural skills; recommended: take concurrently with MP 222 Concert Choir.

MP 241 Symphony Orchestra
(3 hrs/wk, 1 cr) F/W/Sp
In conjunction with the Oregon State University Department of Music, provides opportunity for participation in a symphony orchestra. This large ensemble of 65–80 players performs orchestra repertoire from the 18th, 19th and 20th centuries. Note: May require an audition. An unsuccessful audition will result in disenrollment.

MP 242 Chamber Orchestra
(2 class hrs/wk, 1 cr) F/W/Sp
Provides an opportunity for participation in a strings orchestra. The group performs repertoire from the 18th, 19th and 20th centuries.

MP 251 Rehearsal and Performance
(3–20 class hrs/wk, 1–3 cr) F/W/Sp/Su
Offers credit for music rehearsal directly related to Performing Arts Department performance. Prerequisite: Instructor approval.

MP 271 Individual Lessons: Piano
(1 cr) F/W/Sp/Su
Provides individual instruction in piano. Note: Requires additional tutorial fee.

MP 274 Individual Lessons: Voice
(1 cr) F/W/Sp
Provides individual instruction in voice. Note: Requires additional tutorial fee.

MP 281 Individual Lessons: Flute
(1 cr) F/W/Sp/Su
Provides individual instruction in flute. Note: Requires additional tutorial fee.

MS: MILITARY STUDIES

MS 111 Military Science I: Leadership Development
(1 class hr/wk, 1 cr) F
Introduction to ROTC and its relationship to the U.S. Army. Role of the army officer, including leadership and management fundamentals. Types of jobs available to army officers.

MS 112 Military Science I: Military Skills
(1 class hr/wk, 1 cr) W
Basic rifle marksmanship; military first aid; customs and traditions of the U.S. Army; unit organization and missions.

MS 130 Military Physical Conditioning
(3.75 class hr/wk, 1 cr)
This fitness class is designed to improve your total physical strength and aerobic abilities, prepare you to excel at the Army Physical Fitness Test (APFT) and improve your overall wellbeing. The class is instructed by the Army ROTC Cadre and assisted by Military Science III cadets to better prepare themselves for their leadership course.

MS 113 Military Science I: Land Navigation
(1 class hr/wk, 1 cr) Sp
How to read a topographic map and use a magnetic compass; includes practical exercises.

MS 211 Military Science II: Effective Team Building
(2 class hrs/wk, 2 cr) F
An examination of effective leadership. Development of interpersonal skills using practical exercises and case studies.

MS 212 Military Science II: American Military History
(2 class hrs/wk, 2 cr) W
History of the American soldier from 1775 to 1919; weaponry and tactics of the American Army. Use of battle analysis and wargaming included.

MS 213 Military Science II: Fundamentals of Military Operations
(2 class hrs/wk, 2 cr) Sp
Basic U.S. Army tactics at the individual, team, and squad levels. Integration of military skills in offensive and defensive operations.

MTH: MATH

Eligibility to enroll in math courses is based on demonstrated skill level through completing the appropriate prerequisite with a "C" grade or higher or achieving an appropriate test score on the Computerized Placement Test (CPT). Many math courses require a calculator. Please see your instructor to determine the type of calculator that is appropriate

MTH 020 Basic Mathematics
(4 class hrs/wk, 4 cr) F/W/Sp/Su
Provides a thorough review of arithmetic, including fundamental operations with whole numbers, fractions, decimals, percentages, geometry and measurement. Provides a basis for MTH 060 Introduction to Algebra. Note: A minimum competency level is required to pass this course.

MTH 060 Introduction to Algebra
(4 class hrs/wk, 4 cr) F/W/Sp/Su
A first course in algebra for students who have no previous algebra experience or who need a thorough review. Assumes no familiarity with algebra. Introduces basic operations with integers, exponents, algebraic expressions, linear equations, graphing, dimensional analysis, scientific notation, ratio and proportion, realistic percent problems and other problems that lend themselves to one-variable solutions and introduces statistics, including bar graphs, mean, median, mode and range. Problem solving is emphasized throughout the course. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form. Note: A minimum competency level is required to pass this course. Prerequisite: MTH 020 Basic Mathematics or equivalent.

MTH 061 Survey of Mathematical Fundamentals
● *(3 class hrs/wk, 3 cr) F/W/Sp/Su*
Survey course for the Associate of Applied Science degree. Includes applications of basic algebra, ratio and proportion, charts, tables, graphs, data analysis and problem solving, and provides an introduction to practical geometry. Emphasis is on applications. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form. Note: A minimum competency level is required to pass this course. Prerequisite: MTH 060 Introduction to Algebra or equivalent.

MTH 062 Occupational Trigonometry
● *(1 class hr/wk, 1 cr) F/W/Sp/Su*
Introduces right triangle trigonometry and its applications. Occupational formulas and applications are used. Note: A minimum competency level is required to pass this class. Prerequisite: MTH 061 Survey of Mathematical Fundamentals or instructor's approval.

MTH 063 Industrial Shop Math
● *(1 class hr/wk, 1 cr) Sp*
Acquaints students with measuring tools in the industrial shop and the types of computations and problem-solving methods frequently needed in industrial settings. Note: A minimum competency level is required to pass this course. Prerequisite: MTH 061 Survey of Mathematical Fundamentals or instructor's approval.

MTH 064 Business Applications of Math Fundamentals
● *(1 class hrs/wk, 1 cr) F/W/Sp/Su*
Covers the mathematics of finance, including simple interest and compound interest as applied to bank loans, installment buying, credit purchases and annuities. Prerequisite: MTH 061 Survey of Mathematical Fundamentals or instructor's approval.

MTH 065 Elementary Algebra
● *(4 class hrs/wk, 4 cr) F/W/Sp/Su*
A nontraditional algebra course that incorporates some geometry, statistics and trigonometry. Designed for the student who is familiar with beginning algebra concepts (see MTH 060). Topics include graphing linear, quadratic and exponential functions; solving linear and quadratic equations; solving application problems; using linear and other mathematical models. Problem solving is emphasized throughout the course. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form. A minimum competency level is required to pass this course. Note: Students use graphing calculators in this course. Prerequisite: MTH 060 Introduction to Algebra or equivalent.

MTH 095 Intermediate Algebra
● *(4 class hrs/wk, 4 cr) F/W/Sp/Su*
Designed for the student who is familiar with elementary algebra, as well as basic geometry and statistics (see MTH 065). Topics include graphing quadratic, exponential, logarithmic and other functions; multiplying and factoring polynomials; performing operations with rational expressions; solving systems of linear equations; solving quadratic equations by factoring; performing arithmetic with complex numbers; developing and applying mathematical models. Problem solving is emphasized throughout the course. Application problems are realistic with some data to be collected, analyzed and discussed in a group setting with results submitted in written form. A minimum competency level is required to pass this course. Note: Students use graphing calculators in this course. Prerequisite: MTH 065 Elementary Algebra or equivalent.

MTH 097 Practical Geometry
● *(4 class hrs/wk, 4 cr) F/W/Sp/Su*
Presents applied, informal geometry for students who did not take geometry in high school or who need a thorough review. Includes problem solving, geometric shapes, angle measure, perimeter, area and volume, congruence and similarity, circles, basic constructions and an introduction to right triangle trigonometry. Prerequisite: MTH 095 Intermediate Algebra or equivalent.

MTH 105 Introduction to Contemporary Mathematics
● *(4 class hrs/wk, 4 cr) W/Sp*
A survey course in mathematics for students in the liberal arts and other non-science majors. Topics are selected from areas such as management science, statistics, social choice, the geometry of size and shape, and computers and their applications. Emphasizes the application of mathematics to the problems of contemporary society and the critical role these applications play in economic, political and personal life. Prerequisites: MTH 095 Intermediate Algebra.

MTH 111 College Algebra
● *(5 class hrs/wk, 5 cr) F/W/Sp/Su*
Explores relations and linear, quadratic, exponential, polynomial, rational and logarithmic functions. Includes theory of equations, matrices and determinants, and may introduce sequences and series. Prerequisites: MTH 095 Intermediate Algebra.

MTH 112 Trigonometry
● *(5 class hrs/wk, 5 cr) F/W/Sp/Su*
Introduces trigonometric functions, trigonometric identities, inverse trigonometric functions, trigonometric equations, right triangle trigonometry, complex numbers and polar coordinates. Includes parametric equations, vectors, 3-D geometry and conic sections. Prerequisites: MTH 111 College Algebra and MTH 097 Practical Geometry or equivalent.

MTH 150 Introduction to Statistics
● *(4 class hrs/wk, 4 cr)*
An introductory course to statistical tools that help us understand the inherent behavior and improve the quality of processes that generate product, services or information. The course focuses on procedures for sampling processes, application of Statistical Process Control graphical techniques, interpretation of results, and techniques for improving the process. The basic theoretical concepts underlying SPC are emphasized, including probability, probability distributions (binomial, normal, and t-distribution), confidence intervals, and hypotheses testing. Prerequisite: MTH 095 Intermediate Algebra.

MTH 199 Mathematics: Special Studies
● *(1–3 class hrs/wk, 1–3 cr) As needed*
Allows the student to investigate, with supervision from a faculty member, a topic of his or her interest at an individualized pace. Credits and projects will be determined jointly by the instructor and the student.

MTH 211 Fundamentals of Elementary Mathematics I
● *(4 class hrs/wk, 4 cr) F/W*
One of three courses in the mathematics cluster for prospective elementary and middle school teachers. Develops the understanding of basic mathematical concepts necessary for teaching mathematics in grades K–8. Topics include problem solving, whole numbers, algorithms for computation, numeration systems, number theory and fractions. Prerequisite: MTH 095 Intermediate Algebra or equivalent.

MTH 212 Fundamentals of Elementary Mathematics II
● *(4 class hrs/wk, 4 credits) W/Sp*
One of three courses in the mathematics cluster for prospective elementary and middle school teachers. Develops the understanding of basic mathematical concepts necessary for teaching mathematics in grades K–8. Topics include decimals, percent, ratio and proportion, integers, real numbers, basic statistics and probability. Prerequisite: MTH 211 Fundamentals of Elementary Mathematics I.

MTH 213 Fundamentals of Elementary Mathematics III
● *(4 class hrs/wk, 4 credits) Sp*
One of three courses in the mathematics cluster for prospective elementary and middle school teachers. Develops the understanding of basic mathematical concepts necessary for teaching mathematics in grades K–8. Covers basic geometry topics including shapes and their properties; symmetry; angle measure; measurement of length, area and volume; congruence and similarity; Pythagorean Theorem; and coordinate geometry. Prerequisite: MTH 095 Intermediate Algebra and MTH 097 Practical Geometry or equivalent.

MTH 231 Elements of Discrete Mathematics
● *(4 class hrs/wk, 4 cr) W*
The first course in discrete mathematics for mathematics and computer science majors. Topics include elementary logic, mathematical proof, mathematical induction, functions and sequences, basic set theory, matrix algebra, relations and Boolean algebras. Prerequisite: MTH 112 Trigonometry or equivalent. MTH 251 Differential Calculus recommended.

MTH 232 Elements of Discrete Mathematics
● *(4 class hrs/wk, 4 cr) Sp*
The second course in discrete mathematics for mathematics and computer science majors. Topics include basic matrix linear algebra, combinatorics, graph theory and algorithms. Prerequisite: MTH 231 Elements of Discrete Mathematics.

MTH 241 Calculus for Biological/Management/Social Sciences
● *(4 class hrs/wk, 4 cr) F/W/Sp*
Introduces calculus as applied to business, the social sciences and life sciences. It uses an intuitive development of the calculus of polynomial, exponential and logarithmic functions, extrema theory and applications. Prerequisite: MTH 111 College Algebra.

MTH 243 Introduction to Statistics
● *(4 class hrs/wk, 4 cr) As needed*
An introductory statistics course emphasizing interpretation of statistical results. The course focuses on sampling procedures, experimental design, descriptive statistics, and inferential statistical techniques to analyze survey and experimental data from a wide range of fields including health care, biology, psychology, physics and agriculture. Includes basic concepts in graphical interpretation of one and two variable data, probability, probability distributions (binomial, normal, t-Distribution, and chi-square), confidence intervals for means and proportions, and hypothesis testing. Prerequisite: MTH 111 College Algebra or equivalent.

MTH 245 Math for Biological/Management/Social Sciences
● *(4 class hrs/wk, 4 cr) F/W/Sp*
A survey course of discrete mathematics for non-physical science majors. Topics include systems of inequalities, linear programming and the simplex method, probability and probability distributions, and an introduction to descriptive statistics. Prerequisite: MTH 111 College Algebra.

MTH 251 Differential Calculus
● *(5 class hrs/wk, 5 cr) F/W/Sp/Su*
The first course in the calculus sequence for students majoring in mathematics, science and engineering. Limits and derivatives are approached using graphical, numeric, and symbolic methods. Linear approximations, related rates, curve sketching and optimization are among the applications of differentiation covered in this course. Prerequisite: MTH 112 Trigonometry or equivalent.

MTH 252 Integral Calculus
● *(5 class hrs/wk, 5 cr) F/W/Sp/Su*
The second course in the calculus sequence for students majoring in mathematics, science and engineering. Topics include techniques of integration, numerical integration, improper integrals, applications of integration, and an introduction to differential equations. Prerequisite: MTH 251 Differential Calculus.

MTH 253 Calculus
● *(4 class hrs/wk, 4 cr) F/Sp*
The third course in the calculus sequence for students majoring in mathematics, science and engineering. Topics include sequences and series of real and complex functions, matrix algebra, linear dependence and independence, eigen values and eigenvectors. Prerequisite: MTH 252 Integral Calculus.

MTH 254 Calculus
● *(4 class hrs/wk, 4 cr) F/W*
The fourth course in the calculus sequence for students majoring in mathematics, science and engineering. Topics include vectors in 2- and 3- space, multivariable functions and partial derivatives, vector functions, directional derivatives, Lagrange multipliers, cylindrical and spherical coordinates, multiple integrals and their applications, and an introduction to vector calculus. Prerequisite: MTH 252 Integral Calculus.

MTH 255 Vector Calculus
● *(4 class hrs/wk, 4 cr) W*
An intermediate treatment of multivariate calculus with a vector approach. Provides the mathematical skills for courses in advanced calculus, fluid mechanics and electromagnetic theory. Prerequisite: MTH 254 Calculus.

MTH 256 Applied Differential Equations
● *(4 class hrs/wk, 4 cr) Sp*
Beginning course in differential equations for students majoring in mathematics, sciences or engineering. Covers ordinary differential equations, applications, series solutions to differential equations, and Laplace transforms. Prerequisite: MTH 254 Calculus or instructor's approval.

MTH 265 Statistics for Scientists and Engineers
● *(4 class hrs/wk, 4 cr) W*
Covers probability and inferential statistics applied to scientific and engineering problems. Includes random variables, expectation, sampling, estimation, hypothesis testing, regression, correlation and analysis of variance. Prerequisite: MTH 252 Integral Calculus.

MTH 280 CWE Mathematics
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Designed to give students practical experience in supervised employment related to mathematics. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

MTH 299 Mathematics: Special Studies
(1–3 class hrs/wk, 1–3 cr) As needed
Allows the student to investigate, with supervision from a faculty member, a topic of his or her interest at an individualized pace. Credits and projects will be determined jointly by the instructor and the student.

MUS: MUSIC

MUS 101 Music Fundamentals
➢ *(3 class hrs/wk, 3 cr) F/W/Sp*
Includes music reading, basic music theory, study of scales, interval, chord recognition and music analysis.

MUS 105 Introduction to Rock Music
➢ *(3 class hrs/wk, 3 cr) As needed*
Examines the relationship between rock music and society. Emphasizes the music and lyrical significance of rock music as contemporary social commentary. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

MUS 161 Music Appreciation
➢ *(3 class hrs/wk, 3 cr) F/W/Sp*
Studies music through the elements or language of music, musical forms and the history of music. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

MUS 205 Introduction to Jazz
➢ *(3 class hrs/wk, 3 cr) As needed*
Provides a listener's approach to the development of jazz through its various styles and its place in Afro-American and 20th century socio-political history.

MUS 280 CWE Music
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
An instructional program designed to give students practical experience in supervised employment related to music. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

NFM: NUTRITION AND FOOD MANAGEMENT

NFM 225 Nutrition
(4 class hrs/wk, 4 cr) F/W/Sp
Introduces nutrients: their functions, sources, effects of deficiency, and toxicity. Examines current recommendations for Americans and topics of current interest. Includes digestion, metabolism and changing nutrient needs through the life cycle. Provides opportunity to evaluate personal dietary intake for three days. Note: A background in chemistry is recommended.

NU: NURSING ASSISTANT

NU 5.403 Introduction to Nursing
(4 credits) As needed
This laboratory class allows students to practice and perform the skills of the nursing assistant before entering the Nursing program. The skills include: vital signs, hygiene measures, comfort measures, special procedures, bedside nursing, mobility measures, safety measures, nutrition measures, elimination measures and restorative care device use.

NU 5.406 Nursing Assistant
(30 hrs/wk, 9 cr) F/W/Sp/Su
150 hours fulfilling the Oregon State Board of Nursing requirements (75 hours of classroom/skills laboratory instruction and 75 hours of clinical experience). Course includes instruction in basic bedside nursing skills, basic restorative services, mental health and social service needs, personal care skills and resident rights. Students will learn the knowledge and skills necessary to care for convalescing residents and residents in nursing facilities. Following successful completion of the course, the student may take the Oregon Nursing Assistant Certification Exam (NACE) and apply to the Oregon State Board of Nursing for certification as a Nursing Assistant. Prerequisite: Students are urged to have a high school diploma and to be physically able to lift and turn dependent residents, see and hear residents in distress, therapeutically communicate, intervene in stressful situations, make judgements under stress. Take and pass LBCC College Placement Reading test at 31st percentile or higher. Show proof of negative TB test within the last nine months and measles immunizations #1 and #2 if born after Jan. 1, 1957. Prior to resident care the student must be deemed "qualified" following a criminal history check. Cooperating with the drug testing policies of any non-LBCC, clinical teaching site is a condition for continued enrollment in the course.

NUR: NURSING

NUR 101 Nursing I
(16 class hrs/wk, 9 cr) F
NUR 101 is the first course in the nursing sequence. The course prepares the beginning nursing students to learn about the skills and core concepts required to perform the professional roles of care provider, communicator, and critical thinker in the context of a health care system. Students begin the socialization process into the role of the nurse. Issues related to health-illness continuum, communication, health promotion, and patient care management theory is explored within the context of the health care delivery system. This course will focus on assessing, developing, implementing and evaluating a plan of care that respects the individual's beliefs related to variations in concepts of health and illness and with communication differences. Other content will include the pathophysiology, nursing assessment, nursing implications and related pharmacology to patient with changes in functional status and the care of patients with an infection, a fluid imbalance, and psychosocial and mental health needs. Simulated practice of fundamental nursing skills is included. Clinical application of both theory and skills occurs in a hospital setting. Prerequisite: WR 121

English Composition, MTH 095 Intermediate Algebra, BI 231 Anatomy and Physiology, BI 232 Anatomy and Physiology, BI 233 Anatomy and Physiology, and admission to the Nursing program.

NUR 102 Nursing II
(16 class hrs/wk, 9 cr) W
Second in the core nursing sequence. The focus of this course is the foundation of topics related to nursing care of the surgical patient experiencing physical and psychological changes in body image related to healing and general surgery procedures. The nursing roles of provider of care, teacher, member of the profession are explored in meeting the needs of a variety of patients. Initial concepts of nursing care related to patients confronted with airway disorders, musculoskeletal disorders, metabolic disorders, digestive and intestinal disorders, as well as a focus on the management of care for the hospitalized child is also included in this unit of study. Simulated practice of nursing skills in the multimedia setting. Clinical application of both theory and skills occur in the hospital setting. Prerequisites: NUR 101 (Nursing I) or equivalent credit as evaluated by Admissions.

NUR 103 Nursing III
(18 class hrs/wk, 9 cr) Sp
Third course in the nursing sequence. The initial focus of this course is related to concepts in nursing care of the patient experiencing physical and psychological changes as they relate to childbearing, child rearing, cancers, cardiac disease, and genitourinary disorders. The nursing roles of provider of care, teacher and member of a profession are explored in meeting the needs of patients in the labor and delivery, postpartum and newborn nursery. Content includes exploration of pathophysiology, nursing implications, diagnostic tests, and related pharmacology. The course also focuses on problems of nursing care related to patients confronted with urinary, immune, and cardiac diseases, and degenerative neurologic system disorders. Simulated practice of fundamental nursing skills is included with application of both theory and skill in the hospital and community setting. Prerequisites: NUR 101, 102 (Nursing I and Nursing II), NUR 268A, NUR 268B.

NUR 201 Nursing IV
(17 class hrs/wk, 9 cr) F
Nursing 201 is the fourth course in the nursing sequence. The focus of this course is on comprehensive nursing interventions to promote positive patient response to health and illness issues. Content includes pathophysiology, nursing assessment, nursing implications of related diagnostic tests and pharmacology for patients with acute pulmonary disorders, degenerative neurological disorders, cardiac disorders and mental health disorders. A final emphasis is in applying nursing theory to issues surrounding the complicated perinatal patients and the family. Students will utilize the nursing process to promote positive outcomes in patients experiencing complex physiologic and psychosocial alterations in those body systems. Emphasis is placed on the roles of the nurse as care giver, communicator, educator and critical thinker. Issues surrounding chronicity and nursing care of high risk populations in the community including issues related to the care giver and patient. Emphasis is on critical thinking and nursing process as it relates to patient care in the hospital setting. Simulated practice of nursing skills in the multimedia setting. Clinical application of both theory and skills occurs in the hospital and community setting. Prerequisites: NUR 101, 102, 103 (Nursing I, II and III); NUR 268A, NUR 268B and NUR 268C Drug Therapy and Nursing Implications or completion of all advanced placement requirements.

NUR 202 Nursing V
(17 class hrs/wk, 9 cr) W
Nursing 202 is the fifth course in the core nursing sequence. The focus of this course is on comprehensive nursing interventions to promote positive patient response to health and illness issues. Critical thinking will be promoted by assisting the student to interrelate pathophysiology, nursing assessment, nursing implications of related diagnostic tests and pharmacology for patients with blood disorders, cancer, renal disorders, hepatic and exocrine disorders, complicated respiratory disorders, neurological disorders, shock, trauma and multisystem disorders. Students will utilize the nursing process to promote positive outcomes in patients experiencing complex physiologic and psychosocial alterations in those body systems. Emphasis is on critical thinking and nursing process as it relates to patient care in the hospital setting. Simulated practice of nursing skills in the multimedia setting. Clinical application of both theory and skills occurs in the hospital and community setting. Prerequisites: NUR 101, 102 and 103 and NUR 201 (Nursing I, II, III and IV); NUR 268A, NUR 268B and NUR 268C (Drug Therapy and Nursing Implications) and WR 227 Technical Writing or completion of all advanced placement requirements.

NUR 203 Nursing VI
(15 class hrs/wk, 7 cr) Sp
Nursing 203 is the final and sixth course in the core nursing sequence. The focus of this course is on the comprehensive nursing care and first level patient care management skills in caring for small groups of hospitalized patients. A registered nurse preceptor directly supervises the student under the guidance of the nursing faculty liaison within the scope of practice of the entry-level nurse. The student will practice leadership in the delegation and evaluation of health team members from a variety of backgrounds. Theory development focuses group and individual case study development and presentations of patient scenarios with complicated clinical presentations where pathological factors interplay. Clinical application of theory and skills occurs in the hospital setting. Prerequisites: NUR 101, 102, 103, NUR 201 and 202 (Nursing I, II, III, IV and V); NUR 268A, NUR 268B and NUR 268C (Drug Therapy and Nursing Implications) and WR 227 Technical Writing or completion of all advanced placement requirements.

NUR 222 Contemporary Nursing
(1 class hrs/wk, 1 cr) S
Introduces students to and enables discussion of ethical, legal and professional responsibilities in relation to employment, licensure, professional organi-zations and changing trends in health care. Includes job search skills. Prerequisite: Instructor approval; NUR 101, NUR 102, NUR 103, NUR 201, NUR 202 and current enrollment in NUR 203.

NUR 268A Drug Therapy and Nursing Implications
(1 class hrs/wk, 1 cr) F
This one-credit course focuses on nursing management and critical thinking in regard to medication therapy. Introductory topics are pharmacokinetics, drug interactions and nursing implications. These topics are then applied to the following drug groups: analgesics, opiates, nonopioids, NSAIDs, aspirin, drugs for bone disorders, joint disorders, adrenergics, cholinergics, sedatives, hypnotics, and infectious disease agents. Drug lists for each major category of drugs will be used to direct learning for drug action, safe dosage, side effects, drug interactions, adverse reactions, and nursing implications. Prerequisite: Admission in the Nursing program and enrollment in NUR 101

NUR 268B Drug Therapy and Nursing Implications
(1 class hrs/wk, 1 cr) W
This one-credit course builds on the knowledge acquired in NUR 268A and continues to focus on nursing management and critical thinking with regards to medication therapy. Topics included in this unit of study are pharmacokinetics, pharmacodynamics, interactions of the drug groups used in the treatment of disorders found in the following body systems: respiratory, endocrine, gastrointestinal, body fluids and electrolytes. This course will also address drugs that are used specific to the following disorders: angina, heart failure, hypertension, diabetes, birth control, and impotence. Drug lists for each major category of drugs will be used to direct learning for drug action, safe dosage, side effects, drug interactions, adverse reactions and nursing implications. Prerequisite: NUR 268A Drug Therapy and Nursing Implications and enrollment in NUR 102.

NUR 268C Drug Therapy and Nursing Implications
(1 class hrs/wk, 1 cr) F
This one-credit course focuses on nursing management and critical thinking pertaining to medication therapy as well as drug therapy related to pediatric patients. Drug classifications and prototype drugs will be studied. We will focus on therapeutic uses, drug actions, adverse reactions, drug interactions, and nursing implications for the following drug groups: anti-dysrhythmics, anticancer, anticoagulants, immunosuppressants, neurogenerative/neurologic, psychotherapeutic, women's health, anti-seizure drugs, anti-anginals, lipid-lowering, antiplatelet, antithrombolytic drugs, and antimicrobials specific to the GU system. Prerequisites: NUR 268A and NUR 268B Drug Therapy and Nursing Implications and enrollment in NUR 103.

NUR 280S Service-Learning Nursing
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisites: Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their service-learning approved by the appropriate faculty coordinator.

OA: BUSINESS TECHNOLOGY

OA 121 Keyboarding
(5 class hrs/wk, 1–2 cr) F/W/Sp/Su
Introduces the correct reaches, posture and techniques for touch keying on the alphabetic and top-row number keys to prevent computer-related injuries. Designed for those with no previous keyboarding instruction or those needing a review of touch techniques.

OA 122 Formatting
(5 class hrs/wk, 1–2 cr) F/W/Sp/Su
Correctly format business memos, letters, tables and reports using word processing software. Prerequisite: OA 121 Keyboarding or touch typing at 25 wpm minimum.

OA 123A Typing Skillbuilding
(5 class hrs/wk, 2 cr) F/W/Sp/Su
Diagnose keying deficiencies and practice prescribed drills leading to improved speed and accuracy while keying by touch. Prerequisite: OA 121 Keyboarding or equivalent experience.

OA 123B Advanced Typing Skillbuilding
(5 class hrs/wk, 2 cr) F/W/Sp/Su
Continue diagnosing keying deficiencies and practicing prescribed drills leading to improved speed and accuracy while keying by touch. Prerequisite: OA 123A Typing Skillbuilding.

OA 124 Typing: Speed and Accuracy Development
(5 class hrs/wk, 3 cr) F/W/Sp
Student will identify speed and accuracy deficiencies and practice prescribed corrective drills to improve keying abilities. Prerequisite: OA 121 Keyboarding or equivalent.

OA 201 Word Processing for Business: WordPerfect
(5 class hrs/wk, 1–3 cr) F/W/Sp/Su
Use a variety of WordPerfect features to produce, format, edit and enhance business documents. Prerequisite: OA 121 Keyboarding or touch typing at 25 wpm minimum. Corequisite: CIS 125O Introduction to Windows or equivalent.

OA 202 Word Processing for Business: MS Word
(5 class hrs/wk, 1–3 credits) F/W/Sp/Su
Use a variety of MS Word features to produce, format, edit and enhance business documents. Prerequisites: OA 121 Keyboarding or touch typing at 25 wpm minimum. Corequisite: CIS 125O Introduction to Windows or equivalent.

OA 203 Advanced Word Processing
(5 class hrs/wk, 3 cr) F/Sp
Explore and master advanced functions of the popular word processing packages by applying concepts and software functionality to job-related projects. Prerequisite: OA 201 Word Processing for Business: WordPerfect or OA 202 Word Processing for Business: MS Word.

OA 2.500 Business Orientation
(1 class hr/wk, 1 cr) F
Students will learn about resources and facilities at LBCC, practice strategic workplace "soft" skills, and gain additional career information in chosen field of study.

OA 2.505 Voice Recognition
(5 class hrs/wk, 2 cr) W/Sp
Students will use speech recognition software and voice commands as tools to control computer operations and create professional documents. Prerequisite: CIS 125O Introduction to Windows or equivalent.

OA 2.513 Numeric Keyboarding: Speed & Accuracy
(4 class hrs/wk, 1 cr) F/W/Sp/Su
Students will input by touch 10-key and top-row data numeric accurately and efficiently. Students will learn and demonstrate techniques to maintain and improve health, safety, and productivity as a computer user. Prerequisite: OA 121 Keyboarding or touch typing at 25 wpm.

OA 2.513P Numeric Skillbuilding: Production
(4 class hrs/wk, 1 cr) F/W/Sp/Su
Student will input by touch 10-key and top-row numeric data from a variety of source documents while continuing to build speed and accuracy on the computer keypad. Workstation health and safety will be emphasized. Prerequisite: OA 2.513 Numeric Keyboarding: Speed and Accuracy.

OA 2.515 Business Math
(3–4 class hrs/wk, 1–2 cr) F/W/Sp/Su
Reviews basic math concepts and utilizes mathematical operations to solve practical business application problems. Prerequisite: MTH 020 Basic Mathematics or placement test score.

OA 2.515M Business Math: Medical I
(2 class hrs/wk, 1 cr) F/W/Sp
Review and apply basic math skills as used in health care settings. Five-week class. Prerequisite: MTH 020 Basic Mathematics or placement test score.

OA 2.515MA Business Math: Medical II
(2 class hrs/wk, 1 cr) F/W/Sp
Learn medical application of basic math skills for advanced clinical procedures. Five-week course. Prerequisite: OA 2.515M Business Math Medical I and MTH 060 Introduction to Algebra.

OA 2.524 Medical Transcription I
(5 class hrs/wk, 1–3 cr) F/W/Sp/Su
Apply previously learned transcription skills to produce radiology, pathology, and history and physical reports. Prerequisites: OA 2.527 Applied Document Processing; MO 5.630 Medical Terminology and Body Systems I; OA 2.656M Medical Information Processing.

OA 2.527 Applied Document Processing
(5 class hrs/wk, 3 cr) F/W/Sp/Su
Learn to apply editing, word processing, formatting and transcribing skills to produce a variety of business documents. Prerequisites: OA 2.588 Editing Skills for Information Processing with a minimum of a "C" grade; OA 122 Formatting; and OA 201 Word Processing for Business: WordPerfect or OA 202 Word Processing for Business: MS Word.

OA 2.529 Applied Medical Transcription
(10 class hrs/wk, 1–5 cr) F/W/Sp/Su
Apply previously learned transcription skills to produce radiology, pathology, and history and physical operations, discharge summary, and autopsy reports. Prerequisites: MO 5.631 Medical Terminology and Body Systems II; OA 2.527 Applied Document Processing; OA 2.656M Medical Information Processing.

OA 2.544 Medical Insurance Procedures
(4 class hrs/wk, 4 cr) F/W
Students will learn major insurance protocols and how to submit and process claims for each.

OA 2.551 Communication in Business
(6 class hrs/wk, 4 cr) F/Sp
Effectively communicate in both oral and written forms in a variety of business situations and work collaboratively in teams to problem solve challenging communication issues. Prerequisite: OA 2.588 Editing Skills for Information Processing with a minimum of a "C" grade; and OA 122 Formatting. Corequisite: OA 201 Word Processing for Business: WordPerfect or OA 202 Word Processing for Business: MS Word.

OA 2.579 Integrated Software Applications
(4 class hrs/wk, 3 cr) Sp
Examines procedures related to the integration of functions between various MS office software, office information and decision support systems. Utilize communication and thinking skills in using resources, working with information and understanding systems and technology. Prerequisites: CIS 125D Introduction to Databases; CIS 125O Introduction to Windows; CIS 125S Introduction to Spreadsheets; CIS 125P Introduction to Presentations; and OA 202 Word Processing for Business: MS Word.

OA 2.588 Editing Skills for Information Processing
(3 class hrs/wk, 3 cr) F/W/Sp
Reviews basic grammar fundamentals with an emphasis on proofreading and editing skills. Prerequisite: WR 090 The Write Course or writing CPT score of 40 or higher.

OA 2.590 Readings and Conference: Administrative Support
(2–10 class hrs/wk, 1–5 cr) F/W/Sp/Su
Student will pursue an individualized instructional plan in an area of particular interest or where additional curriculum expertise is needed. Note: Number of credits is determined by the amount of time needed and spent. Prerequisite: Instructor approval.

OA 2.612 CWE Externship Seminar
(1 class hr/wk, 1 cr) F/W/Sp
Students and instructor will debrief and discuss CWE and externship training experiences. Must be currently enrolled in a CWE or externship class.

OA 2.613 CWE (Cooperative Work Experience) for Office Professionals
(6–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
Student will obtain relevant employment opportunity in chosen field of study to develop and refine a broad range of employability skills. Thirty hours of work equals one college credit. Prerequisite: GPA of 2.0 and approval of supervising faculty.

OA 2.616 Job Success Skills
(1 class hr/wk, 1 cr) Sp
Learn to effectively communicate employability skills to a prospective employer. Includes employability traits, job research techniques, resume writing, job applications, employment tests, cover letters, mock interviews, and professional dress and grooming.

OA 2.645 Administrative Procedures I
(6 class hrs/wk, 3 cr) Sp
Incorporates general office procedures with team-building activities and ethical decision-making processes needed in a diverse, modern office environment. Prerequisites: CIS 125O Introduction to Windows; OA 2.588 Editing Skills for Information Processing with a minimum of a "C" grade; OA 201 Word Processing for Business: WordPerfect or OA 202 Word Processing for Business: MS Word.

OA 2.646 Project Management
(6 class hrs/wk, 4 cr) W
Participate in dynamic business simulations, using a variety of traditional office procedures, communication processes and team skills. Prerequisite: OA 2.645 Administrative Procedures I or instructor approval.

OA 2.650 Management for the Office Professional
(3 class hrs/wk, 3 cr.) F
Student will discover and refine administrative office management skills needed by present and future office professionals. Prerequisite: OA 2.645 Administrative Procedures I.

OA 2.651 Coding in the Hospital Environment
(3 class hrs/wk, 3 cr) F, Sp
Student will learn to support the hospital reimbursement mechanism and utilizes hospital coding resources Prerequisite: OA 2.544 Medical Insurance Procedures, OA 2.672 Basic Coding or commensurate practical experience at the instructor's discretion. Co-requisite: OA 2.680 Advanced Coding

OA 2.652 Filing
(4 class hrs/wk, 1 cr) F/W/Sp/Su
Learn and apply ARMA rules for filing paper records for a variety of filing systems.

OA 2.656M Medical Information Processing
(4 class hrs/wk, 3 cr) W/Sp
Prepares student to develop, practice and apply editing and transcription skills to produce accurate medical documents for use in a health care setting. Prerequisites: MO 5.630 Medical Terminology and Body Systems I; OA 122 Formatting or OA 202 Word Processing for Business: MS Word; and OA 2.588 Editing Skills for Information Processing with a minimum "C" grade.

OA 2.670 Medical Office Procedures
(6 class hrs/wk, 4 cr) F/Sp
Students will develop the skills needed to know and perform the clerical and administrative duties and procedures of a medical office. Prerequisites: MO 5.630 Medical Terminology and Body Systems I; OA 2.565M Medical Information Processing; OA 2.588 Editing Skills for Information Processing with a minimum grade of "C"; OA 2.671 Medical Law and Ethics; OA 201 Word Processing for Business: WordPerfect or OA 202 Word Processing for Business: MS Word.

OA 2.671 Medical Law and Ethics
(3 class hrs/wk, 3 cr) W
Students learn an ethical framework for evaluating themselves and their environment and the legal requirements assigned to them.

OA 2.672 Basic Coding
(3 class hrs/wk, 3 cr) W/Sp
Learn to utilize ICD-9 and CPT manuals to translate medical information into billable financial data. Prerequisite: MO 5.630 Medical Terminology and Body Systems I; OA 2.544 Medical Insurance Procedures.

OA 2.675 Legal Practices, Procedures and Terminology I
(4 class hrs/wk, 3 cr) W
Students examine procedures required for administrative support in legal or judicial office setting. Legal document formatting and legal terminology are introduced. Focus on required work ethic and privacy concerns in legal setting and examine Oregon Rules and Civil Procedures in relation to various areas of civil criminal law. Prerequisite: OA 122 Formatting and OA 201 Word Processing for Business: WordPerfect or OA 202 Word Processing for Business: MS Word. Corequisite: OA 2.588 Editing Skills for Information Processing.

OA 2.676 Legal Practices, Procedures and Terminology II
(4 class hrs/wk, 3 cr) Sp
Continue examination of procedures required for administrative support in legal career areas; legal document formatting; legal terminology; required work ethic and privacy concerns in legal settings; and examination of Oregon Rules and Civil Procedures. Prerequisite: OA 2.675 Legal Practices, Procedures and Terminology I.

OA 2.679 Basic Medical Coding
(1 cr) F/Sp
Teaches basic concepts of medical coding systems including: ICD-9 coding systems; CPT-4 codes for the insurance claim forms (HCFA 1500/UB92 forms); and physician reports for outpatient and inpatient services.

OA 2.680 Advanced Coding
(3 class hrs/wk, 3 cr) F/Sp
Students learn to analyze medical coding information to extrapolate financial data that will provide the best opportunity for reimbursement. Prerequisite: OA 2.672 Basic Coding; MO 5.631 Medical Terminology and Body Systems I.

OA 2.681 Coding in the Hospital Environment
(3 class hrs/wk, 3 cr) F/Sp
Student will learn to support the hospital reimbursement mechanism and utilizes hospital coding resources. Prerequisite: OA 2.544 Medical Insurance Procedures, OA 2.672 Basic Coding or commensurate practical experience at the instructor's discretion. Co-requisite: OA 2.680 Advanced Coding.

OA 2.682 Desktop Publishing
(4 class hrs/wk, 3 cr) W
Explore and master basic functions of popular Web designing and publishing software packages by applying concepts and software functionality to job-related projects. Design and create attractive, effective materials for today's business needs such as letterheads, flyers, newsletters, advertisements, brochures, online publications and Web pages. Prerequisite: OA 201 Word Processing for Business: WordPerfect or OA 202 Word Processing for Business: MS Word.

OA 2.683 Computerized Records Management
(5 class hrs/wk, 3 cr) W
Perform manual filing using ARMA simplified filing rules and electronic filing using MS Access database and develop fundamentals of managing the records life cycle. Prerequisites: OA 201 Word Processing for Business: WordPerfect or OA 202 Word Processing for Business: MS Word and OA 2.652 Filing.

OA 2.690 Preparation for IAAP Certifying Exam
(1 class hr/wk, 1 cr) F/W/Sp
Student will review theoretical and technical skills needed to successfully pass the national exams administered by the International Association of Administrative Professionals and take skills tests sponsored by the Office Professional Assessment and Certification organization. Prerequisite: Near completion of two-year Administrative Assistant Program.

OA 2.691 Preparation for Certifying Exam (Administrative)
(1 class hrs/wk, 1 cr) W
Review administrative competencies to prepare for the national certification exam administered by the American Association of Medical Assistants. Corequisite: Must be enrolled in MO 5.640 Administrative Externship I of the Medical Assistant Program.

OA 2.925 Basic Microsoft Office Skills
(10-15 class hrs/wk, 1-3 cr) As needed
Covers some of the basics of Windows and Microsoft Office.

OST: OCCUPATIONAL SKILLS TRAINING

OST 202 Occupational Skills Training Seminar
(1 class hr/wk, 1 cr) F/W/Sp/Su
The OST seminar is a course designed to provide opportunities for students involved in an OST course to share training-related experience with their OST coordinator.

OST 280 Occupational Skills Training
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
A site-based training program designed to give students experience in a supervised training position related to their occupational goal. Students identify learning objectives, train a specified number of hours during the term and participate in related seminar activities. Credits earned are based upon completion of identified objectives and the number of hours spent in training.

PE: PHYSICAL EDUCATION

PE 131 Introduction to Health and Physical Education
(3 class hrs/wk, 3 cr) F/W
Surveys professional opportunities in the area of health and physical education. Provides a basic philosophy of physical education and health as well as objectives. Qualifications of a variety of related occupations are discussed. Required for all physical education and health majors.

PE 180B Advanced Basketball: Women
(3 class hrs/wk, 1 cr) F/Sp
Provides a detailed presentation of individual basketball skills and on-court strategy for team play. Prerequisite: PE 180D Basketball Conditioning: Women and instructor's approval.

PE 180C Basketball Skills: Women
(3 class hrs/wk, 1 cr) Sp
Continued emphasis on conditioning for overall efficiency of basketball skills. Provides a detailed presentation of basketball skills and a plan for overall improvement. Prerequisite: PE 180D Basketball Conditioning: Women and instructor's approval.

PE 180D Basketball Conditioning: Women
(10 class hrs/wk, 1 cr) F
Emphasis is on development of strength conditioning, aerobic fitness and agility drills needed in improving basketball skills. Three-week class.

PE 180G Advanced Volleyball: Women
(3 class hrs/wk, 1 cr) W/Sp
Emphasizes the development of skills for team play. Prerequisite: Instructor approval.

PE 180H Volleyball Conditioning: Women
(10 class hrs/wk, 1 cr) F
Emphasis on development of strength conditioning, aerobic fitness, agility and pylometric drills needed in improving volleyball skills. Three-week course. Prerequisite: Instructor approval.

PE 1851 Beginning Volleyball
(3 class hrs/wk, 1 cr) F/W/Sp
Introduces the skills and techniques basic to volleyball, including different offensive and defensive forms of team play, strategies, etiquette and rules of the game.

PE 1851 Intermediate Volleyball
(3 class hrs/wk, 1 cr) F/W/Sp
Emphasizes increasing a player's abilities within a team situation. Designed for the player who has mastered beginning volleyball skills.

PE 1851 Advanced Volleyball
(3 class hrs/wk, 1 cr)
Increases skill levels and mental strategies, with emphasis on increasing a player's abilities within a team situation.

PE 1852 Walk for Health
(3 class hrs/wk, 1 cr) F/W/Sp
Emphasizes the health and fitness benefits of a regular walking program, including strengthening and stretching activities. Instruction focuses on fitness walking and mechanics, physiological and psychological effects of walking, injury prevention, equipment and long-term exercise commitment.

PE 1853 Cardio Kick Boxing
(3 class hrs/wk, 1 cr) F/W/Sp
Provides the students with the techniques of kick boxing. This includes benefits, safety precautions, and specific fitness principles.

PE 1854 Advanced Weight Training
(3 class hrs/wk, 1 cr) F/W/Sp
Provides instruction and practices in conditioning programs specific to sports participation.

PE 1855 Relaxation and Massage
(3 class hrs/wk, 1 cr)
Designed to provide the student with the knowledge and skills needed to incorporate and practice a variety of techniques of relaxation and massage. Massage and relaxation are two basic and effective ways of attaining and maintaining good health and reducing stress.

PE 1856 Ski Conditioning
(8 class hrs/wk, 1 cr) As needed
Improves personal fitness for downhill and cross-country skiing specifically.

PE 1856 Skiing/Snowboarding
(8 class hrs/wk, 1 cr) As needed
Provides opportunity for students to have on-slope instruction at local ski facility by ski instructors. Note: Eight-week class.

PE 1857 Intermediate Basketball
(3 class hrs/wk, 1 cr) F/W/Sp
Emphasizes basketball conditioning, skill development and game situations. Features game format.

PE 185A Circuit Weight Training
(3 class hrs/wk, 1 cr) F/W/Sp
Provides instruction and participation in circuit training routines designed to improve muscular strength, muscular endurance, flexibility and body composition.

PE 185E Beginning Ballet
(3 class hr/wk, 1 cr) F/W/Sp
Provides an exercise program choreographed to music and designed to study the basic elements of dance as well as mechanics of ballet movements, alignment, balance and terminology.

PE 185E Intermediate Ballet
(3 class hrs/wk, 1 cr) F/W/Sp
Provides an exercise program choreographed to music and designed to study the intermediate elements of dance as well as mechanics of ballet movements, alignment, balance and terminology. Prerequisite: One year of beginning ballet.

PE 185F Bowling
(3 class hrs/wk, 1 cr)
Students will increase proficiency in bowling skills and techniques. Rules and courtesies of the game as well as social and recreational values to the student are stressed.

PE 185G Body Conditioning
(3 class hrs/wk, 1 cr) F/W/Sp
Provides instruction and practice in exercises that condition the body. Techniques taught for the use of free and fixed weights, and aerobic equipment. Flexibility, strength and physical endurance emphasized.

PE 185GS Beginning Soccer
(3 class hrs/wk, 1 cr)
Provides basic skills, rules and strategies for soccer. Includes dribbling, kicking, trapping, heading, throw-in, tackling, shooting, goalie play, corner kicks, penalty kicks, soccer formations, offensive and defensive play.

PE 185H Body Toning
(3 class hrs/wk, 1 cr)
Provides instruction to develop total body tone, including strengthening and firming of stomach, legs, hips, thighs, arms and upper body. Instructor will lead floor exercises and hand weight routines.

PE 185J Beginning Aerobic Dance
(3 class hrs/wk, 1 cr) F/W/Sp
Provides an exercise program choreographed to music and designed to tone, trim and firm all body muscle groups as it strengthens and conditions the cardiovascular system.

PE 185J Intermediate Aerobic Dance
(3 class hrs/wk, 1 cr) F/W/Sp
Provides an exercise program choreographed to music and designed to tone, trim and firm all body muscle groups as it strengthens and conditions the cardiovascular system.

PE 185K Beginning Step Aerobics
(3 class hrs/wk, 1 cr) F/W/Sp
Introduces students to stepping techniques, including proper and safe movement on and off the bench. Students increase their skill level to enter step classes offered at any level. Students also build on all stepping techniques, including "adding on" to patterns and transitioning into new combinations.

PE 185K Intermediate Step Aerobics
(3 class hrs/wk, 1 cr) F/W/Sp
Designed to meet the needs of experienced step aerobic participants. Students learn to execute more advanced combinations, plus improve their fitness level by learning power moves designed to increase the intensity level of their workout.

PE 185M Beginning Golf
(6 class hrs/wk, 1 cr) F/Sp
Introduces the mental and physical needs involved in golf, including grip, stance, swing techniques, rules, strategy and etiquette. Note: Five-week class.

PE 185M Intermediate Golf
(6 class hrs/wk, 1 cr) F/Sp
Provides a more detailed presentation of golf techniques and strategy to improve and correct basic swing errors. Prerequisite: PE 185M Beginning Golf recommended or intermediate skill. Note: Five-week class.

PE 185M Advanced Golf
(6 class hrs/wk, 1 cr)
Provides a detailed presentation of golf technique and strategy to improve and correct basic swing errors. Also includes on-course play. Prerequisite: PE 185M Beginning Golf. Note: Five-week class.

PE 185N Pilates
(3 class hrs/wk, 1 cr) F/W/Sp
Provides a non-impact, invigorating approach to physical conditioning and mind/body awareness.

PE 185P Jogging
(3 class hrs/wk, 1 cr) F/W/Sp
Emphasizes the health and fitness benefits of a regular jogging program, including strengthening and stretching activities. Instruction focuses on mechanics of jogging, physiological and psychological effects of jogging, injury prevention, equipment and long-term exercise commitment.

PE 185PA/PB Beginning/Intermediate Personal Defense
(3 class hrs/wk, 2 cr) F/W/Sp
Introduces the student to preventive measures and basic moves relating to personal defense.

PE 185Q Beginning Karate
(3 class hrs/wk, 1 cr) F/W/Sp
Introduces basic Tae Kwon Do (Korean Karate). Includes blocks, kicks, punches, forms and some freestyle. Emphasizes establishing and maintaining good body condition.

PE 185Q Intermediate Karate
(3 class hrs/wk, 1 cr) F/W/Sp
Teaches karate skills in blocking, kicking, punches and forms. Emphasizes body condition and physical fitness. Prerequisite: Basic skills acquired in Tae Kwon Do or Beginning Karate course or instructor's approval.

PE 185Q Freestyle Karate
(3 class hrs/wk, 1 cr) F/W/Sp
A course designed to deal with freestyle techniques of the martial arts including several different styles and philosophies. Prerequisite: PE 185Q Beginning Karate.

PE 185R Hip Hop Aerobic Dance
(3 class hrs/wk, 1 cr)
An introductory class that utilizes elements of Hip-Hop, jazz dance and other contemporary dance forms. It is a fun, high-energy class. Students should be in good physical condition without chronic injuries.

PE 185S Beginning SCUBA
(4 class hrs/wk, 2 cr)
Provides instruction in the use of self-contained underwater breathing apparatus (SCUBA) Includes six academic (classroom) modules, six confined water (pool) modules and open-water dives to certify students as a PADI Open Water Scuba Diver. Note: Eight-week class.

PE 185S Advanced Open Water SCUBA
(4 class hrs/wk, 1 cr)
Provides additional supervised dives developing new SCUBA skills in the areas of night, deep, navigation, search and recovery and naturalist diving. Prerequisite: PADI open water or equivalent.

PE 185T Flag Football
(4 class hrs/wk, 1 cr) F
Emphasizes playing flag football for fun and fitness. Instruction focuses on key points of the game, including safety, equipment, rules, strategy, conditioning, injury prevention, team leadership, as well as development of stance, blocking, passing, catching, flag tackling and kicking skills.

PE 185U Sand Volleyball
(4 class hrs/wk, 1 cr) Sp
Introduces skills and techniques to basic and intermediate sand volleyball, including different offensive and defensive formats of team play, strategies, and etiquette of the game.

PE 185V Ultimate Frisbee
(3 class hrs/wk, 1 cr)
Introduces the skills and techniques basic to ultimate frisbee, including offensive and defensive play, strategies, etiquette and rules of the game.

PE 185X Cardio Core Conditioning
(3 class hrs/wk, 1 cr)
Designed to improve daily functioning, this class integrates rhythmic cardiovascular and resistance exercises with core conditioning techniques. Students develop deep muscles within the torso to improve stability, mobility, strength and endurance. Steps, hand weights and elastic bands are utilized to maximize exercise benefits. This class format is suitable for students of various fitness levels.

PE 185Y Beginning Tennis
(4 class hrs/wk, 1 cr) F/Sp
An elective course for the novice or beginning student that will provide instruction, playing experience and knowledge of the basic stroke fundamentals of ground strokes, volleys, lob, serve and overhead smash. Playing rules, scoring, court etiquette, conditioning, equipment and playing strategy for singles and doubles will be discussed.

PE 185Y Intermediate Tennis
(4 class hrs/wk, 1 cr) F/Sp
Covers advanced tennis strategies and skills. Prerequisites: Intermediate skill recommended or beginning tennis suggested.

PE 185Y Advanced Tennis
(4 class hrs/wk, 1 cr) Sp
Prepares students for competition, emphasizing development of skills for competitive play. Prerequisites: Intermediate skill recommended or beginning tennis suggested.

PE 190A Baseball Conditioning
(10 class hrs/wk, 1 cr) Sp
Emphasizes physical conditioning that develops strength and agility for better efficiency in baseball skills. Team concepts are taught through offensive and defensive strategies to improve team play. Three-week course. Prerequisite: PE 190C Beginning Baseball and instructor's approval.

PE 190B Baseball Skills: Hitting and Pitching
(3 class hrs/wk, 1 cr) W
Enables student to refine basic baseball skills in hitting, pitching and catching. Provides instruction and practice in team offensive hitting concepts and pitching philosophies. Prerequisite: PE 190C Beginning Baseball and instructor's approval.

PE 190C Beginning Baseball
(10 class hrs/wk, 1 cr) F
Introduces fundamental baseball skills. Some aerobic conditioning skills are used to develop general stamina. Learning is enhanced through scrimmage format. Three-week class.

PE 190D Advanced Baseball
(3 class hrs/wk, 1 cr)
Helps develop the advanced student in the game of baseball. Individual and team concepts are taught to ensure a high level of play from its participants. Prerequisite: Beginning baseball and instructor's approval.

PE 190H Advanced Basketball: Men
(3 class hrs/wk, 1 cr) F/Sp
Provides a detailed presentation of individual basketball skills and on-court strategy for team play. Prerequisite: PE 190J Basketball Conditioning: Men, and instructor's approval.

PE 190J Basketball Conditioning
(10 class hrs/wk, 1 cr) F
Emphasis is on development of strength conditioning, aerobic fitness and agility drills needed in improving basketball skills. Three-week course.

PE 190K Basketball Skills: Men
(3 class hrs/wk, 1 cr) F
Continued emphasis on conditioning for overall efficiency of basketball skills. Provides a detailed presentation of basketball skills and a plan for overall improvement. Prerequisite: PE190J Basketball Conditioning: Men, and instructor's approval.

PE 194K Defensive Tactics
(3 class hrs/wk, 2 cr) F/W/Sp
Includes a comprehensive defensive tactics plan of instruction. Students will be required to participate in both lecture and lab exercises.

PE 231 Lifetime Health and Fitness
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Evaluates selected areas of the student's present health and fitness level. Provides information on each of the seven wellness dimensions as they relate

to physical fitness, back care, heart health, stress management, nutrition, weight management, behavioral change, and lifestyle choices. Considers work-life balance and self-responsibility. Shows the student how to enter the work site as a fit and healthy individual and suggests ways to maintain that level of health.

PE 232 Backpacking: Map and Compass Skills
(3 class hrs/wk, 3 cr)
Prepares the individual for safe, challenging and enjoyable wilderness trips. Emphasizes physical conditioning, equipment, clothing, food, safety and the use of map and compass.

PE 270 Sport Psychology
(3 class hrs/wk, 3 cr)
Students will be introduced to mental, physical, social and psychological aspects of athletic performance and the significance of sport as it relates to culture, socialization, character development, personality, race, gender, economics and mass media.

PE 280A CWE Physical Education
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
An instructional program designed to give students practical experience in supervised employment related to physical education. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

PE 280B CWE Recreation
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
An instructional program designed to give students practical experience in supervised employment related to recreation. Students identify job performance objectives, work a specified number of hours during the term and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

PE 291 Lifeguard Training
(3 class hrs/wk, 2 cr) Sp
Introduces students to the necessary minimum knowledge and skills training for a person to qualify to serve as an entry-level lifeguard and Red Cross certification. Prerequisite: swimming pretest.

PE 292 Water Safety Instruction
(6 class hrs/wk, 2 cr) Sp
Trains students to teach swimming and other water safety skills. Practice teaching will include lesson planning, teaching methods, teaching to diverse groups of students and student evaluations. Prerequisites: Must be 17 years old (by the end of the course), successfully pass the written and skill pretest (based on a proficiency level equal to the Red Cross Community Water Safety Course and Level VI learn-to-swim skills.)

PH: PHARMACY TECHNICIAN

PH 5.901 Pharmacy Technician
(30 hrs, 3 cr) As needed
Focuses on the competencies required by pharmacy technicians in institutional and community pharmacy settings. Students will learn and practice the roles and responsibilities for the pharmacy technician. Also, this course prepares learners to take the national Pharmacy Technician Certification Exam administered by the Pharmacy Technician Certification Board. Prerequisite: WR 115 Introduction to College Writing, MTH 095 Intermediate Algebra, pass criminal background check and current immunizations.

PH 5.905 Pharmacy Laws and Ethics
(20 hrs, 2 cr) As needed
Covers the rules and regulations that govern pharmacies in the state of Oregon. Students will be exposed to all the rules and regulations governing pharmacies. By the end of the course, each student will be able to look up any rule regarding the practice of pharmacy in the Oregon Revised Board of Pharmacy Statutes. Prerequisite: WR 115 Introduction to College Writing, MTH 095 Intermediate Algebra, pass criminal background check and current immunizations.

PH 5.910 Pharmacy Math
(48 hrs, 4 cr) As needed
Develops math skills needed to become a pharmacy technician in a retail or hospital setting. Topics include: fractions, decimals, ratios and proportions in dosage calculation; changing within the household; metric and apothecary systems of measurement; calculations necessary for preparing pharmaceutical solutions and determining IV flow rates. Prerequisites: Math 095 Intermediate Algebra, WR 115 Introduction to College Writing.

PH 5.915 Pharmacology and Drug Classification for Pharmacy Technicians
(54 hrs, 5 cr) As needed
Prepares students training to work as a member of a Pharmacy Technician health care team to effectively communicate pharmaceutical information to a variety of health care professionals using correct spelling and pronunciations of selected pharmaceuticals, which will help ensure patient safety in pharmaceutical usage. Students will obtain knowledge of a large number of pharmaceuticals, including generic and trade names and an understanding of how they work in the body, as well as the usual dosage of a drug. Prerequisite: Math 095 Intermediate Algebra, WR 115 Introduction to College Writing, pass criminal background check and current immunizations.

PH 5.920 Pharmacy Operations: Retail and Institutional
(35 hrs, 2 cr) As needed
Focuses on drug distribution systems, record management and inventory control, and ambulatory and institutional practices. Students will learn how hospital and retail pharmacies operate. Prerequisite: WR 115 Introduction to College Writing, MTH 095 Intermediate Algebra, pass criminal background check and current immunizations.

PH 5.925 Workplace Spanish for Health Care Professionals
(20 hrs, 2 cr) As needed
Introduces students to Spanish pronunciation and basic questions and phrases used in providing customer service in a pharmacy setting. The class focuses on learning simple commands and yes/no questions in order to provide good customer service to Spanish-speaking customers. Aspects of Hispanic culture relating to customs and attitudes toward health care and medical personnel will also be covered.

PH: PHLEBOTOMY

PH 5.310 Phlebotomy
(100 hrs, 8 cr) As needed
Provides skill development in the performance of a variety of blood collection methods using proper techniques and universal precautions. Includes vacuum collection, arterial specimen collection, devices syringes, capillary skin punctures, radial artery punctures for blood gasses, butterfly needles, blood cultures and specimen collection on adults, children and infants. Emphasis on infection prevention, proper patient identification, labeling of specimens and quality assurance, specimen handling, processing and accessioning.

PH 5.320 Anatomy and Physiology for Phlebotomists
(20 hrs, 2 cr) As needed
Provides an overview of basic anatomy and physiology of body systems and anatomic terminology. Relates major areas of the clinical laboratory to general pathologic conditions associated with the body systems. Systems include: circulation, heart, lymph, respiratory, urinary, cells and blood, and muscular/skeletal.

PH 5.330 Communication and Customer Service for Phlebotomists
(30 hrs, 2 cr) As needed
Students acquire skills in the basic concepts of communication, personal and patient interaction, stress management and professional behavior. Topics include: proactive listening; giving and receiving constructive feedback; maintaining a professional image; working well as a team; proper manner for greeting and interacting with a patient, physician, nurse, respiratory therapist and other hospital personnel; communicating instructions effectively; and telephone skills.

PH: PHYSICS

PH 104 Descriptive Astronomy
● *(5 class hrs/wk, 4 cr) F/Sp*
An introductory course covering the historical and cultural context of discoveries concerning planets and stars and their motion. Topics include models and the scientific method, astronomical tools, the solar system, stars and stellar evolution, galaxies and cosmology. An accompanying laboratory is used for experiments, including outdoor observations. Prerequisite: MTH 065 Elementary Algebra or equivalent. This is a laboratory class.

PH 201 General Physics
● *(7 class hrs/wk, 5 cr) F*
The first of a three-term sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. The group of topics covered is called mechanics and includes measurement and analysis, motion on one dimension, motion in two dimensions, force and motion, circular motion, gravitation, work and energy, linear momentum, angular momentum, and fluids at rest and in motion. Prerequisites: Completion of MTH 111 College Algebra with a grade of "C" or better and completion of MTH 112 Trigonometry with a grade of "C" or better. This is a laboratory class.

PH 202 General Physics
● *(7 class hrs/wk, 5 cr) W*
The second of a three-term sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. The group of topics covered is vibrations, wave motion, sound, temperature, heat, thermo-dynamics, electrostatic force, field, potential, capacitors and resistors. Prerequisite: Completion of PH 201 General Physics with a "C" or better. This is a laboratory class.

PH 203 General Physics
● *(7 class hrs/wk, 5 cr) Sp*
The third term of a three-term sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. The topics covered in this course include geometric and physical optics, magnetism, electromagnetic induction, AC and DC circuits, atomic physics, and nuclear processes. Prerequisites: Completion of PH 201 General Physics with a grade of "C" or better and completion of PH 202 General Physics with a "C" or better. This is a laboratory class.

PH 211 General Physics with Calculus
● *(7 class hrs/wk, 5 cr) F*
The first of a three-term calculus-based sequence of introductory college physics for students in science, engineering and other curricula who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics include measurement; scientific models; motion in a straight line; motion in two dimensions; vectors; force and motion; Newton's laws of motion; work and energy; conservation of energy; center of mass; impulse and linear momentum; conservation of linear momentum and gravitation. Prerequisites: Completion of MTH 251 Differential Calculus and MTH 252 Integral Calculus with a grade of "C" or better. Recommended corequisite: MTH 254 Calculus. This is a laboratory class.

PH 212 General Physics with Calculus
● *(7 class hrs/wk, 5 cr) W*
The second of a three-term calculus-based sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics include the physical principles of rotational kinematics and dynamics; static equilibrium; fluid mechanics; simple harmonic motion; waves; sound; and geometric and physical optics. Prerequisites: PH 211 General Physics with Calculus with a "C" or better. Corequisite: MTH 254 Calculus. This is a laboratory class.

PH 213 General Physics with Calculus
● *(7 class hrs/wk, 5 cr) Sp*
The third of a three-term calculus-based sequence of introductory college physics for students who are planning to transfer credit to a four-year college or university, or for anyone desiring an understanding of physics principles. Topics include electrostatic force, field and potential; current and resistance capacitance; magnetic field; forces on charged particles due to a magnetic field; Hall effect and other applications of electric and magnetic fields; Law of Biot and Savart; Ampere's law; magnetic dipoles; Faraday's law of induction; Lenz's law; induced electric fields; self and mutual induction; RC and RL direct current circuits; magnetic properties of matter; AC and DC circuits; displacement currents and Maxwell's equations; electromagnetic waves. Prerequisites: PH 212 General Physics with Calculus and MTH 254 Calculus with a "C" or better. This is a laboratory class.

PH 299 Special Studies
(2–6 hrs/wk, 1–3 cr) As needed
Allows the student to investigate, with supervision from a faculty member, a topic of his or her interest at an individualized pace. Credits and projects will be determined jointly by the instructor and the student.

PHL: PHILOSOPHY

PHL 198 Independent Studies
(1 class hr/wk, 1–3 cr)
Offers selected philosophy topics for independent research. Prerequisite: Instructor approval.

PHL 201 Introduction to Philosophy
➢ *(3 class hrs/wk, 3 cr) F*
Introduces the philosophical task, the major areas of philosophical speculation and the role critical thinking plays in everyday life.

PHL 202 Elementary Ethics
➢ *(3 class hrs/wk, 3 cr) W*
Develops the idea of humans as moral agents and considers critically various interpretations of the ideals and standards of moral conduct.

PHL 215 History of Western Philosophy
➢ *(3 class hrs/wk, 3 cr) Sp*
Studies Western philosophy from the ancient Greeks to the 20th century.

PHL 298 Independent Study: Logic
➢ *(1 class hr/wk, 1–3 cr)*
Offers individual study of patterns of logic, rules of inference through formalized logical language and techniques of deductive and predicate logic.

PS: POLITICAL SCIENCE

PS 198 Research Topics
(1 class hr/wk, 1–3 cr) F/W/Sp
Examines in-depth selected political science topics for independent research. Corequisite: WR 123 English Composition.

PS 200 Introduction to Politics
■ *(3 class hrs/wk, 3 cr) F*
Basic introduction to the central themes and fundamental issues of political life. Examines the nature and meaning of politics; relation between politics and society and politics and economics; the basic concepts associated with the organization and operation of different systems of government; and the major political ideologies of the modern world: liberal-capitalism, socialism, communism, fascism. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

PS 201 Introduction to American Politics and Government
■ *(3 class hrs/wk, 3 cr) F/Sp*
Introduces and analyzes the American political system. Studies the development and operation of the institutions of national government, the political process (elections, public opinion, interest group activities, policy-making), the American political culture, and the American political-economy (capitalism and American politics). Includes case studies of federalism, election rules, civil society, and lobbying. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

PS 203 State and Local Government in Oregon
■ *(3 class hrs/wk, 3 cr) As needed*
General introduction to the role, organization and functions of government at the state and local level in the United States. Special emphasis will be placed on the use of Oregon state and local government as a source of examples and case studies. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

PS 204 Introduction to Comparative Politics
■ *(3 class hrs/wk, 3 cr) W*
Introduces major political, economic, and social concepts applied comparatively to a variety of governments and political systems including democracies, dictatorships, and theocracies. Focus is on Europe, former communist states, and 3rd world states of Africa, the Middle East, Asia, and Latin America. Uses case studies of political conflicts and social movements as well as role-playing and simulations. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

PS 205 Introduction to International Relations
■ *(3 class hrs/wk, 3 cr) F/Sp*
Introduces analyses of current world events; the nature of the international political and economic systems; and alternative perspectives, strategies, and approaches to contemporary world problems. Topics include global diversity; poverty and economic development; environmental and resource issues; and war and peace. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

PS 211 Peace and Conflict
■ *(3 class hrs/wk, 3 cr) As needed*
Examines the sources and causes of violence in relations involving individuals, groups, nations, and the global community. Focuses on alternatives to oppressive behavior, undemocratic politics, and the violent resolution of conflict by exploring the ideas and strategies of nonviolence. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

PS 220 U.S. Foreign Policy
■ *(3 class hrs/wk, 3 cr) As needed*
Analyzes selected U.S. foreign policy issues and problems through case studies. Places foreign policy in the perspective of history and in the context of international political, economic and environmental conflicts. Explores the diversity of perceptions about U.S. foreign relations. Uses role-playing to simulate the foreign policy-making process. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

PS 252 Constitutional Law
■ *(3 class hrs/wk, 3 cr) As needed*
Introduction to the meaning, principles and use of the U.S. Constitution with emphasis on leading Supreme Court cases. Focus is on current controversies including: privacy rights, property rights, war powers, equal protection, church-state relations, and the role of the courts in the governing process. Uses role-playing and simulations of the judicial process. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

PS 280 CWE Political Science
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to political science. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

PS 280S Service-Learning Political Science
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisites: Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their Service-Learning approved by the appropriate faculty coordinator.

PSY: PSYCHOLOGY

PSY 101 Psychology and Human Relations
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Psychology and human relations focuses on practical applications of psychology to relationships. Topics include models for understanding individual and social behavior, self and social perception, emotional self-regulation, physical and mental health, addictions, attraction, relationship formation and maintenance, leaders and followers, stress, work, leisure time, sexuality, commitment, and brief introduction to the clinical aspects of human behavior.

PSY 198 Independent Studies: Research Topics
(1 class hr/wk, 1 cr) F/W/Sp
Provides in-depth examination of a selected psychological topic to develop skills in independent research. Intended primarily for the psychology major. Prerequisite: WR 123 English Composition. Corequisite: PSY 203 General Psychology to be taken prior to or concurrently.

PSY 201 General Psychology
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Discusses biological and scientific aspects of psychology including history, scientific methodology, genes and evolution, the brain and nervous system, biological rhythms and mental states, sensation and perception and development. Prerequisite: College-level reading and writing (WR121) are strongly recommended for success in this course.

PSY 202 General Psychology
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Discusses the cognitive aspects of psychology including scientific methodology, learning, memory, thinking, intelligence, motivation and emotion. Prerequisite: College-level reading and writing (WR121) are strongly recommended for success in this course.

PSY 203 General Psychology
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Discusses issues of psychological health, personality development, and the social context, within the science of human behavior. Topics include: scientific methodology; the brain and the nervous system; personality development; health psychology; psychological disorders; treatment approaches; and the social context of behavior. Prerequisite: College-level reading and writing (WR121) are strongly recommended for success in this course.

PSY 215 Introduction to Developmental Psychology
■ *(3 class hrs/wk, 3 cr) F/W*
Explores physical, psychological, emotional, and social development from birth to death. Topics include: historical foundations; research methodology; and prominent theories/research of each developmental sequence across the lifespan. Prerequisite: College-level reading and writing (WR121) are strongly recommended for success in this course.

PSY 217 Social Psychology
(3 class hrs/wk, 3 cr) Sp
Social psychology studies the social nature of human behaviors, attitudes, perceptions, thoughts and emotions. Major areas of study include: research methods, social perception and judgment, attitude formation and change, prejudice, discrimination, sexism, aggression, interpersonal attraction altruism, conformity, group dynamics, and the application of social psychology findings to current social issues. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

PSY 219 Introduction to Abnormal Psychology
■ *(3 class hrs/wk, 3 cr) W*
An introduction to the study of psychological disorders, including issues of diagnosis and treatment. Topics include: models of abnormality; overview of major disorders, including diagnostic considerations; current research on treatment effectiveness; and the impact of psychological disorders on society and its legal system. Prerequisite: College-level reading and writing (WR121) are strongly recommended for success in this course.

PSY 231 Human Sexuality
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Discusses the biological, social and psychological aspects of human sexual functioning, within a scientific context. Topics include sexual anatomy, sexual response, gender identity, gender roles, sexual orientation, love, contraception, sexually transmitted infections and sexual coercion. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

PSY 280 CWE Psychology
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to psychology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

R: RELIGION

R 101 Introduction to Religious Studies
➢*(3 class hrs/wk, 3 cr)*
Explores the nature of religion as experienced historically throughout the world. Examines the nature of religious experience with the divine and the relationship between science and religion. Discusses the roles of language, myths, and symbols in religion. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

R 102 Religions of Western World
➢*(3 class hrs/wk, 3 cr)*
Investigates religion in the Western World. Includes discussion of Judaism, Christianity and Islam. Focuses on how the outward forms of religious expression integrate with other cultural traditions.

R 103 Religions of Eastern World
➢*(3 class hrs/wk, 3 cr)*
Surveys cultures and religions of the eastern world with a focus on the teaching of compassion and tolerance in these religions. Includes understandings of Hinduism, Buddhism, Taoism, and Sikhism. Prerequisite: College-level reading and writing skills (WR121) are strongly recommended for success in this course.

R 198 Independent Studies: Research Topics
(1–3 class hrs/wk, 1–3 cr)
Offers selected topics of study in religion with individual research and/or field study. Corequisite: WR 123 English Composition.

R 211 The Old Testament: Historical Background
➢*(3 class hrs/wk, 3 cr) As needed*
Describes the history and culture of the Hebrew people, including conditions affecting the production of the Old Testament.

R 212 The New Testament: Historical Background
➢*(3 class hrs/wk, 3 cr) As needed*
Discusses the historical developments of the New Testament, including development of Christianity and its significance in human experience.

RD: READING

RD 070 Foundation Reading Skills
(4 class hrs/wk, 4 cr) F/W/Sp
Introduces sound-to-letter pattern relationships, syllabication, active reading and other comprehension strategies to improve reading competence. Students record and apply the strategies in a reading reference notebook designed to help them decode unfamiliar words in the future. Prerequisite: Appropriate score on the reading portion of the Computerized Placement Test.

RD 080 Developing Reading Skills
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Develops fundamental reading skills for students. Students learn to recognize important ideas, build vocabulary, and use strategies for successful comprehension and recall. Prerequisite: Appropriate score on reading portion of the Computerized Placement Test.

RD 090 Strategies for Effective Reading
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Students will use reading strategies to become more thoughtful, effective and active readers and build skills to learn from introductory-level college texts. Prerequisite: Appropriate score on reading portion of the Computerized Placement Test.

RD 115 Advanced College Reading
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Develops students' ability to analyze, comprehend, and retain information in college textbook material from various disciplines. Students learn to become literate, active college textbook readers. Prerequisite: Appropriate score on reading portion of the Computerized Placement Test.

RD 120 Critical Thinking
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Students improve the quality of their thinking by applying elements of reasoning and intellectual standards. In this skill-building course, students will critically evaluate complex issues from a variety of sources and develop lifelong critical thinking skills. Prerequisite: Appropriate score on reading portion of the Computerized Placement Test.

RH: REFRIGERATION, HEATING AND AIR CONDITIONING

RH 3.552 Electrical Systems Troubleshooting
(20 class hrs/wk, 2 cr) W
Skills learned include: safety, troubleshooting with Ohm's law, wiring parallel and series circuits, tracing electrical distribution systems, determining power consumption, determining the correct ampacity, and taking phase-to-phase measurements. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.553 Electrical Problems
(22.5 class hrs/wk, 4 cr) W
Skills learned include: safety; finding shorts and high resistance shorts to ground; testing contacts, transformers, coils, relays and power supplies; taking voltage drop tests. Note: Three-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.580 RHVAC Brazing and Fitting
(20 class hrs/wk, 2 cr) F
Skills learned include: cutting and brazing; safety, bend, cut, flare, and swag refrigerant tubing and RHVAC silver soldering. Earn Oregon State Refrigeration Brazing Certification. Introduction to refrigeration systems as related to troubleshooting. Note: Two-week class.

RH 3.581 Recovery and Charging
(20 class hrs/wk, 2 cr) F
Skills learned include: take pressures, identify refrigerants, recover and recycle refrigerant, evacuate and charge refrigeration systems. All applicable safety precautions and EPA governed environmental regulations. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.584 Refrigeration Troubleshooting
(22.5 class hrs/wk, 4 cr) F
Skills learned include: troubleshoot and repair refrigeration systems; evaluate system operation; check superheat and subcooling; test compressors, evaporators, condensers, and expansion devices; troubleshoot hot and cold calls; and cleaning a contaminated system. Note: Three-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.585 Heating Systems
(20 class hrs/wk, 2 cr) F
Skills learned include: operation and servicing of oil and gas heating systems. Introduction to troubleshooting heating systems, troubleshooting heat pumps. All relevant safety and energy efficient concerns are covered. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.586 Sheet Metal
(20 class hrs/wk, 2 cr) Sp
Skills learned include: Understand air movement and balancing, essential sheet metal installation and repair skills, and understand layout and design. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.587 Troubleshooting Motors
(20 class hrs/wk, 2 cr) W
Skills learned include: troubleshooting, maintenance and repair of single- and three-phase motors, maintenance and basic troubleshooting of variable speed drives and testing capacitors. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.588 Motor Control Troubleshooting
(20 class hrs/wk, 2 cr) W
Skills learned include: safety, testing motor control circuits, and troubleshooting with electrical schematics. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.590 Control Circuit Troubleshooting
(20 class hrs/wk, 2 cr) W
Skills learned include: safety, troubleshooting and repairing mechanical and digital control circuits; wiring and setting timers; troubleshooting input and output faults; testing 4-20 mA, 1–5 VDC and 1–10 volt DC circuits; and testing diodes, thermistors and thermocouples. programming programmable thermostats. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.594 RHVAC Skills Lab
(3–12 class hrs wk/ 1–6 cr) Variable credit
Individual lab practice to improve RHVAC understanding and skills. May also be used for special projects. To be offered every term subject to instructor approval. Prerequisite: Instructor's approval.

RH 3.595 Licensing
(20 class hrs/wk, 2 cr) F
Skills learned include: working according to environmental concerns and regulations. Earn EPA refrigerant handling certification. Note: Two-week class. Prerequisite: Enrolled in RHVAC or possessing verifiable experience.

RH 3.596 Mechanical Systems
(20 class hrs/wk, 2 cr) Sp
Skills learned include: safety, managing lubrication systems, maintaining and repairing belt and chain drives, pump maintenance, understanding mechanical processes, and completing selected essential mechanical maintenance tasks. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.597 PM and Troubleshooting
(20 class hrs/wk, 2 cr) Sp
Skills learned include: starting and operating a computerized maintenance program, inventory control, customer service, and job search skills. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RH 3.602 HVAC System Controls
(22.5 class hrs/wk, 4 cr) Sp
Skills learned include tracing and analyzing HVAC ducting systems, troubleshooting of mechanical controls, maintenance of pneumatic controls, maintenance, installation and troubleshooting of DDC systems, using computerized DDC systems, and troubleshooting indoor air quality problems. (Computer) Note: Three-week class. Prerequisite: Instructor's approval required. Enrolled in RHVAC or possessing verifiable experience.

RH 3.618 RHVAC Systems Review
(20 class hrs/wk, 2 cr) Sp
Designed for the completion of projects not completed or needing upgrading. It is a time for review of essential job skills and preparation for the final certification offered through the RHVAC program. Note: Two-week class. Prerequisite: Instructor's approval. Enrolled in RHVAC or possessing verifiable experience.

RT: Diagnostic Imaging (Radiology Technology)

RT 5.750 Introduction to Radiology
(20 hrs, 2 cr) As needed
Designed to introduce students to the profession of Diagnostic Imaging, its history, future, professional and accrediting organizations, and the relationship between radiographer and the patient. An introduction to legal terminology, concepts and principles will also be presented. Topics include misconduct, malpractice, legal and professional standards and the ASRT scope of practice. This course is also designed to introduce the fundamental background of professional ethics. The student will examine a variety of ethical issues and dilemmas found in clinical practice. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.755 Radiographic Procedures and Positioning with Lab I
(30 hrs, 2 cr) As needed
Focuses on radiographic positioning and procedures for the chest and abdomen. Lab portion includes peer positioning, film critiques, anatomy and the utilization of equipment to perform procedures on phantoms. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.756 Radiographic Procedures and Positioning with Lab II
(30 hrs, 2 cr) As needed
Focuses on radiographic positioning techniques for the upper and lower extremities. Lab portion includes peer positioning, film critiques, anatomy, and the utilization of equipment to perform procedures on phantoms. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.757 Radiographic Procedures and Positioning with Lab III
(30 hrs, 2 cr) As needed
Focuses on radiographic positioning and procedures for the spine and pelvis. The lab portion includes peer positioning, film critiques, anatomy, and the utilization of equipment to perform procedures on phantoms. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.758 Radiographic Procedures and Positioning with Lab IV
(30 hrs, 2 cr) As needed
Focuses on radiographic positioning and procedures for the skull. The lab portion includes peer positioning, film critiques, anatomy, and the utilization of equipment to perform procedures on phantoms. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.759 Radiographic Procedures and Positioning with Lab V
(50 hrs, 4 cr) As needed
Focuses on radiographic positioning and procedures for fluoroscopic examinations, operating room procedures, and sterile technique. The course discusses positioning, film critique, anatomy, and the utilization of equipment to perform procedures. The theory and practice of basic techniques of venipuncture and the administration of diagnostic contrast agents is included. Emphasizes radiographer's role regarding patient care with regard to contrast administration and contrast media reactions. Course is designed to provide the basic concepts of patient care, including consideration for the physical and psychological needs of the family. Routine and emergency patient care procedures will be described, as well as infection control procedures utilizing standard precautions. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.765 Clinical Radiography I
(330 hours, 11 cr) As needed
Clinical practice experiences are designed for development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiologic procedures. The planned clinical experience provides the student with the opportunity to observe and apply theoretical principles while performing procedures under supervision of the clinical staff. Progression in the program is dependent on the student demonstrating clinical competence on a specified number of competency evaluations. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.766 Clinical Radiography II
(330 hours, 11 cr) As needed
Clinical practice experiences are designed for development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiologic procedures. The planned clinical experience provides the student with the opportunity to observe and apply theoretical principles while performing procedures under supervision of the clinical staff. Progression in the program is dependent on the student demonstrating clinical competence on a specified number of competency evaluations. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.767 Clinical Radiography III
(330 hours, 11 cr) As needed
Clinical practice experiences are designed for development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiologic procedures. The planned clinical experience provides the student with the opportunity to observe and apply theoretical principles while performing procedures under supervision of the clinical staff. Progression in the program is dependent on the student demonstrating clinical competence on a specified number of competency evaluations. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.768 Clinical Radiography IV
(330 hours, 11 cr) As needed
Clinical practice experiences are designed for development, application, critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiologic procedures. The planned clinical experience provides the student with the opportunity to observe and apply theoretical principles while performing procedures under supervision of the clinical staff. Progression in the program is dependent on the student demonstrating clinical competence on a specified number of competency evaluations. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.771 Principles of Exposure
(30 hrs, 3 cr) As needed
Content is designed to establish a knowledge base in factors that govern and influence the production and recording of radiologic images. Reviews the fundamentals of radiographic quality, and prime exposure factors. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.775 Cultural Competence in Health Occupations
(20 hrs, 2 cr) As needed
Designed to promote the better understanding of patients, patient families and professional peers through comparison of diverse populations based on their value system, cultural and ethnic influences, communication styles, socioeconomic influences, health risks and life stages. Course helps students discover their biases. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.777 Radiation Biology
(30 hrs, 3 cr) As needed
Provides an overview of the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues and the body as a whole are represented. Factors affecting biological response are presented, including acute and chronic effect of radiation. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.779 Radiation Protection
(30 hrs, 3 cr) As needed
Presents an overview of the principles of radiation protection including the responsibilities of the radiographer for patients, personnel and the public. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations will be addressed. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.783 Radiographic Equipment and Maintenance
(40 hrs, 3 cr) As needed
Establishes a knowledge base in radiographic, fluoroscopic, mobile, and tomographic equipment requirements and design. Content is also designed

to introduce knowledge in computing and information processing. Computer applications in radiologic sciences related to image capture, display, storage, and distribution are presented. Film and electronic imaging with related accessories will also be emphasized. Labs are used to demonstrate application of theory. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.786 Radiographic Pathology
(30 hrs, 3 cr) As needed
Introduces theories of disease causation and the pathophysiologic disorders that compromise health systems. Etiology, pathophysiologic responses, clinical manifestations, radiographic appearance and management of alterations in body systems will be presented. Prerequisite: Admission into the Diagnostic Imaging Program

RT 5.791 Radiation Physics
(30 hrs, 3 cr) As needed
Establishes a basic knowledge of atomic structure and terminology. Presents the nature and characteristics of radiation, x-ray production and the fundamentals of photons interactions with matter. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.796 Pharmacology
(20 hrs, 2 cr) As needed
Designed to provide the basic concepts of pharmacology. Concepts of pharmacology including modes of action, uses, modes of excretion effects, side effects, and patient care required for specific pharmacologic agents. Prerequisite: Admission into the Diagnostic Imaging Program.

RT 5.799 Radiographic Technology Comprehensive Review
(30 hrs, 3 cr) As needed
Prepares students to take the National ARRT examination. Allows a student to practice taking the exam using simulation tests. Introduces test-taking methods and skills, study skills, and memorization techniques. Reviews all pertinent program and course materials and education. Prerequisite: Admission into the Diagnostic Imaging Program.

SD: SUPERVISORY MANAGEMENT

SD 101 Supervision: Fundamentals
(3 cr) F/W/Sp
Introduces current management theory in the areas of motivation, leadership, organization and planning, team building, and decision making. Examines the skills necessary to be an effective supervisory leader within a diverse workplace.

SD 102 Supervision: Effective Communication
(3 cr) W/Sp
Focuses on the supervision skills that are used in effective communications in the workplace. Learn the basics of communication, including styles of communication, listening skills and non-verbal communication. In addition, learn meeting management and business presentation skills.

SD 103 Issues in Supervision
(3 cr) F/Sp
Provides an understanding of ethical theories and decision making with an emphasis on how management decisions affect the organization, staff, and environment. Covers the supervisor's responsibility for conservation and environmental issues within the workplace. Gain knowledge of contemporary employment laws, and legal and ethical methods of staff recruitment and performance evaluations. Ethical skills learned are incorporated into methods for resolving conflict in the workplace.

SD 104 Supervision Skills
(3 cr) W/Sp
A series of topics designed to improve a student's supervision skills. Study topics such as stress and time management, improving productivity in a changing environment and effective customer skills.

SD 107 Business and Society
(3 cr) F/S
Study the basis of American business ethics. Compare and contrast western and non-western culture systems and examine the part culture plays in the forma-tion of a nation's business values. Explore the relationships between business and contemporary society, including such topics as government regulation of business, business responsibility to consumers and the environment, and the role and responsibility of American business in the global community.

SD 280 CWE Supervisory Development
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to supervisory management. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

SOC: SOCIOLOGY

SOC 198 Research Topics
(1 class hr/wk, 1 cr)
Requires an in-depth review of current knowledge about a sociological topic. Intended primarily for the sociology major to develop skills in independent research. Prerequisite: WR 123 English Composition.

SOC 204 General Sociology
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Introduces the sociological perspective: the components of society and social organization, culture, socialization and stratification. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

SOC 205 General Sociology
■ *(3 class hrs/wk, 3 cr) F/W/Sp*
Applies sociological perspectives to the study of social change and trends in family, religion, education, economics and politics. Prerequisite: SOC 204 General Sociology or instructor's approval.

SOC 206 General Sociology
■ *(3 class hrs/wk, 3 cr) W/Sp*
Surveys social issues and social movements. Stresses application of basic concepts to the analysis of contemporary problems in group life. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

SOC 211 Sociology of Deviance and Social Control
■ *(3 class hrs/wk, 3 cr) Sp*
Three parallel intents have determined the contents and organization of this course: to present a comprehensive coverage of the major sociological theories of deviance; to show how these different perspectives might be brought together to obtain a more complete understanding of deviance causation; and to emphasize that the social processes that produce and maintain deviance are essentially the same ones that produce and maintain conformity. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

SOC 222 Marriage Relationships
■ *(3 class hrs/wk, 3 cr) F*
Examines intimate relationships, courtship, marriage and family patterns — old, new and unconventional. Focuses on how relationships are built, maintained, changed and terminated. Prerequisite: SOC 204 General Sociology or instructor's approval.

SOC 280 CWE Sociology
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to sociology. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

SOC 280S Service-Learning Sociology
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisites: Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their Service-Learning approved by the appropriate faculty coordinator.

SP: SPEECH

SP 100 Introduction to Speech Communication
(3 class hrs/wk, 3 cr) W/Sp
Survey course covering the complexities of the communication process and the impact of communication on obtaining employment. Includes insights into the causes and effects of general communication behaviors, involvement in active exploration of basic communication theories and concepts, and opportunities to develop communication strengths.

SP 111 Fundamentals of Speech
(3 class hr/wk 3 cr) F/W/Sp/Su
Provides the opportunity to discuss and understand the nature of public speaking and discourse in both ancient and modern society, and to create, adapt and deliver original speeches before an audience. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

SP 112 Introduction to Persuasion
(3 class hrs/wk, 3 cr) F/W/Sp
Studies the theory and practice of persuasion and persuasive techniques. Students learn to analyze, develop and present persuasive messages. Introduces the nature and logic of reasoning, persuasive propositions, issues and claims, the use of evidence and rational discourse. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

SP 199 Special Studies in Speech
(3–9 class hrs/wk, 1–3 cr) F/W/Sp/Su
Offers individual and special studies arranged with an instructor. Note: May be repeated for a maximum of nine credits.

SP 218 Interpersonal Communication
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Introduces students to various aspects of the communication process in one-to-one relationships. Emphasis is placed on enhancing personal and professional relationships by expanding knowledge, increasing understanding and developing practical skills necessary for competent communication. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

SP 219 Small Group Communication
(3 class hrs/wk, 3 cr) F/W/Sp
Investigates interaction at the small-group level. Many interesting aspects of group communication are experienced and explored. Both the process and dynamics of groups will be important, as well as group tasks and outcomes. Small-group communication is viewed from historical, sociological and cultural perspectives. Students gain insight as to the critical role groups and group communication plays in the structure and functioning of civilization. Prerequisite: College-level reading and writing skills (WR 121) are strongly recommended for success in this course.

SP 280 CWE Speech
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to speech. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

SP 280S Service-Learning Speech
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisites: Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their service-learning approved by the appropriate faculty coordinator.

SPN: SPANISH

SPN 101 First-Year Spanish I
(4 class hrs/wk, 4 cr) F/W/Sp/Su
Introduces basic structures of Spanish in order to help students communicate basic ideas in written and oral speech. The class stresses all language skills (listening, speaking, reading and writing) as well as cultural topics. The class provides a general understanding of the background of Hispanic populations, especially those largely represented in the U.S. population. This is NOT a conversation class, but there is an emphasis on oral communication. Students with previous knowledge of Spanish are encouraged to take the placement examination.

SPN 102 First-Year Spanish II
(4 class hrs/wk, 4 cr) W/Sp/Su
Presents new verbal tenses, particularly those used to communicate about past events. This class augments, students' ability to deal with different practical situations in Spanish, and covers in more detail the history and culture of several Latin American countries. Further development of vocabulary, all language skills, and culture. Prerequisite: The student needs to: complete SPN 101 First-Year Spanish I with a minimum "C" grade or take the placement examination, or have instructor's approval.

SPN 103 First-Year Spanish III
(4 class hrs/wk, 4 cr) Sp/Su
Stresses oral and written communication and explores more complex forms of communication, allowing to express opinions, feelings and information in any everyday situation. Presents authentic language through cultural representations, and gives an overview of less known Spanish-speaking countries. Further development of all language skills towards proficiency and cultural understanding. Prerequisite: The student needs to: complete SPN 102 First-Year Spanish II with a minimum "C" grade or take the placement examination, or have instructor's approval.

SPN 198 Independent Studies
(1–4 class hrs/wk, 1–4 cr) F/W/Sp
A special Spanish class tailored to improve writing skills in the language. Includes research in preparation for individual professional needs. Prerequisite: Instructor's approval.

SPN 201 Second-Year Spanish I
➢(4 class hrs/wk, 4 cr) F
Review and further development of all language skills towards proficiency and cultural understanding. Prepares students to use Spanish in more academic settings. The four main skills of the language are emphasized (reading, writing, speaking, and listening). Acquaints students with Hispanic cultures through authentic materials. There is an emphasis in presenting different cultural manifestations. Prerequisite: SPN 103 First-Year Spanish III with a minimum "C" grade or four years of high school Spanish equivalent, or instructor's permission. Heritage or Native speakers are required to have instructor's approval.

SPN 202 Second-Year Spanish II
➢(4 class hrs/wk, 4 cr) W
Further development of all language skills towards proficiency and cultural understanding. This class introduces new tenses of the subjunctive mode. Acquaints students with Hispanic cultures through authentic materials. There is an emphasis in presenting different cultural representations. Prerequisite: SPN 201 Second-Year Spanish I with a minimum "C" grade, or five years of high school Spanish equivalent or instructor's permission. Heritage or Native speakers are required to have instructor's approval.

SPN 203 Second-Year Spanish III
➢(4 class hrs/wk, 4 cr) Sp
Prepares students to use Spanish in more academic settings, and to use the language for more critical and analytical purposes. There is an emphasis in presenting different cultural representations. Prerequisite: SPN 202 Second-Year Spanish II with a minimum "C" grade, or instructor's permission. Heritage or Native speakers are required to have instructor's approval.

SPN 280 CWE Spanish
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to Spanish. Students identify job performance objectives, work a specified number of hours during the term, and attend a CWE-related seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

SPN 280S Service-Learning Spanish
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisites: Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their Service-Learning approved by the appropriate faculty coordinator.

SS: STUDY SKILLS

SS 070 Vocabulary Basics
(2 hrs, 1 cr) F/W/Sp/Su
This self-paced minicourse is part of a comprehensive vocabulary program which helps students build vocabulary and strengthen their reading, writing, and thinking. Features include an intensive words-in-context approach, abundant practice, individual feedback, and focus on high-frequency words and word parts known to be most helpful for students. Prerequisite: Townsend Reading Placement Test.

SS 071 Vocabulary Improvement I
(2 hrs, 1 cr) F/W/Sp/Su
This self-paced minicourse is part of a comprehensive vocabulary program which helps students build vocabulary and strengthen their reading, writing, and thinking. Features include an intensive words-in-context approach, abundant practice, individual feedback, and focus on high-frequency words and word parts known to be most helpful for students. Prerequisite: Townsend Reading Placement Test.

SS 072 Vocabulary Improvement II
(2 hrs, 1 cr) F/W/Sp/Su
This self-paced minicourse is part of a comprehensive vocabulary program which helps students build vocabulary and strengthen their reading, writing, and thinking. Features include an intensive words-in-context approach, abundant practice, individual feedback, and focus on high-frequency words and word parts known to be most helpful for students. Prerequisite: Townsend Reading Placement Test.

SS 073 Vocabulary Improvement III
(2 hrs, 1 cr) F/W/Sp/Su
This self-paced minicourse is part of a comprehensive vocabulary program which helps students build vocabulary and strengthen their reading, writing, and thinking. Features include an intensive words-in-context approach, abundant practice, individual feedback, and focus on high-frequency words and word parts known to be most helpful for students. Prerequisite: Townsend Reading Placement Test.

SS 074 Vocabulary Improvement IV
(2 hrs, 1 cr) F/W/Sp/Su
This self-paced minicourse is part of a comprehensive vocabulary program which helps students build vocabulary and strengthen their reading, writing, and thinking. Features include an intensive words-in-context approach, abundant practice, individual feedback, and focus on high-frequency words and word parts known to be most helpful for students. Prerequisite: Townsend Reading Placement Test.

SS 075 Vocabulary Improvement V
(2 hrs, 1 cr) F/W/Sp/Su
This self-paced minicourse is part of a comprehensive vocabulary program which helps students build vocabulary and strengthen their reading, writing, and thinking. Features include an intensive words-in-context approach, abundant practice, individual feedback, and focus on high-frequency words and word parts known to be most helpful for students. Prerequisite: Townsend Reading Placement Test.

SS 087 Techniques of Studying
(1–10 class hrs/wk, 0–3 cr) As needed
Develops study skills and college success skills for students in designated programs. When taught in conjunction with a professional-technical or academic program, the course emphasizes study of the materials used in the program. The course delivery is adapted to the needs of students in that program. Prerequisite: Adequate reading preparation for the materials being used. When taught in conjunction with a professional-technical or academic program, co-enrollment is anticipated.

SS 090 Study Skills
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Introduces students to the study skills needed to be successful in a community college. These include note taking, reading and studying textbooks, using the library, time management, and preparing for and taking tests. These skills are taught in combination with understanding attitude, motivation, and student behavior. Prerequisite: Appropriate reading competence as indicated by Computerized Placement Test.

SS 1.181 Taking Lecture Notes
(20 class hrs, 1 cr) F/W/Sp/Su
In this self-paced, instructor-guided course, students develop effective note-taking skills. Students analyze their current skills and problem areas. Course includes pre-lecture preparation, effective listening techniques, identifying key information in a lecture, outlining skills, note-taking strategies, and the Cornell method of note taking and studying. Application activities reinforce concepts in each area.

SS 1.184 Studying for Tests
(20 class hrs, 1 cr) F/W/Sp/Su
In this self-paced, instructor-guided course, students develop strategies for test preparation. Students learn how to anticipate course requirements, plan study time, and learn methods for identifying, organizing and actively learning the important information in a course. Included is study of mapping as a tool for learning course information.

SS 1.185 Test-taking Skills
(20 class hrs, 1 cr) F/W/Sp/Su
In this self-paced, instructor-guided course, students develop test-taking skills. Students learn to anticipate why and when tests are given, evaluate their test-taking attitudes, develop successful test-taking strategies for objective and essay tests, learn post-test evaluation, and explore test anxiety and methods for managing it.

TA: THEATER

TA 147 Introduction to Theater
➢*(3 class hrs/wk, 3 cr) W/Sp*
A lecture/discussion course that surveys, from an audience's point of view, the place of theater in our culture; theatrical production styles and personnel involved in creating a live theatrical event.

TA 248 Fundamentals of Acting I
(3 class hrs/wk, 3 cr) F/W
Introduction to the art and craft of acting. Acting as an art form, and its place in world culture.

TA 249 Fundamentals of Acting II
(3 class hrs/wk, 3 cr) As needed
Introduction to the art and craft of acting. Acting as an art form, and its place in world culture. Prerequisite: Either TA 248 Fundamentals of Acting I; TA 144, 145 or 146 Improvisation; or instructor's approval.

TA 144 Improvisation
(3 class hrs/wk, 3 cr) F
Introduction to the basic strategies of developing spontaneous responses and critical thinking skills to manage unexpected situations. Includes role playing and scene development.

TA 145 Improvisation
(3 class hrs/wk, 3 cr) W
Introduction to the basic strategies of developing spontaneous responses and critical thinking skills to manage unexpected situations. Includes performance improvisation.

TA 146 Improvisation
(3 class hrs/wk, 3 cr) Sp
Introduction to the basic strategies of developing spontaneous responses and critical thinking skills to manage unexpected situations. Includes narrated storytelling.

TA 180 Rehearsal and Performance
(2–6 class hrs/wk, 1–3 cr) F/W/Sp
Offers credit for participating in a public theater production of the college. Productions provide both extracurricular activity for non-majors and practical application of classroom theory for theater students. May be repeated for up to six credits. Prerequisite: Instructor's approval.

TA 190 Projects in Theater
(2–6 class hrs/wk, 1–3 cr) F/W/Sp/Su
Offers individually arranged projects in the theater. May be repeated for up to nine credits. Prerequisite: Instructor's approval.

TA 198 Independent Studies: Theater
(2–6 class hrs/wk, 1–3 cr) F/W/Sp/Su
Offers individually arranged projects in the theater. Prerequisite: Instructor permission.

TA 246 Creative Drama for Teachers
(3 class hrs/wk, 3 cr) Sp
Explores philosophy, literature, activities and teaching methods of creative dramatics for children.

TA 250 Workshop: Theater Arts
(2–6 class hrs/wk, 1–3 cr) F/W/Sp
Offers practical experience in the preparation of scenery, costumes, properties, sound and publicity for a college theatrical production. May be repeated for up to six credits.

TA 280 CWE Theater Arts
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to theater arts. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

TA 290 Projects in Theater
(2–6 class hrs/wk, 1–3 cr) F/W/Sp/Su
Offers individually arranged projects in the theater. May be repeated for up to 9 credits. Prerequisite: Three credits of TA 190 Projects in Theater and instructor's approval.

TA 298 Independent Studies: Theater
(2–6 class hrs/wk, 1–3 cr) F/W/Sp/Su
Offers individually arranged projects in the theater. Prerequisite: Instructor approval.

VT: BASIC VETERINARY TECHNOLOGY

VT 8.601 Foundation Sciences
(33 hrs, 2 cr) As needed
Provides students with knowledge and skills in basic biological sciences, including a knowledge of microbiology, virology, anatomy, physiology and parasitology. Prerequisite: WR 095 College Writing Fundamentals or equivalent score on the Computerized Placement Test.

VT 8.605 Veterinary Medicine
(78 hrs, 7 cr) As needed
Provides students with an understanding of common medical procedures and diseases of small and large animals. Students receive training and practice in nursing skills, knowledge of vaccines and standard protocols, foundation areas such as reproduction and nutrition, and specialized areas such as dentistry, cardiology, endocrinology and dermatology. Students gain skills relevant to these areas and current information regarding appropriate treatment methods.

VT 8.610 Veterinary Clinic Practices
(17 hrs, 1 cr) As needed
Students gain information regarding general medical and clinical procedures. Students learn office-call procedures, medical terminology, basic business methods, interpersonal skills, and federal and state regulations specific to veterinary clinics.

VT 8.615 Clinical Sciences
(29 hrs, 2 cr) As needed
Helps students develop the knowledge and skills to perform clinical tasks relevant to veterinary clinics. Both in the classroom and the laboratory, students perform clinical procedures such as intravenous catheterization, urinalysis, diagnostic cytology and complete blood counts.

VT 8.620 Surgery and Anesthesia
(43 hrs, 2 cr) As needed
Gives students the knowledge and skills necessary to perform the tasks associated with induction and maintenance of anesthesia, as well as those specific to surgery. Through lecture, demonstration and lab exercises, students learn to monitor planes of anesthesia, correct physiologic imbalances, and prepare materials essential to surgery.

VT 8.625 Veterinary Radiology
(20 hrs, 2 cr) As needed
Students gain a basic knowledge of the nature of radiation and how to take diagnostic-quality radiographs. Students acquire the necessary number of hours in education in veterinary radiation use and safety required by the Oregon Administrative rules. Upon completion of the course, students are radiation safety certified and therefore qualified to take radiographs at the completion of the section.

VT 8.630 Pharmacology
(20 hrs, 2 cr) As needed
Students gain a working knowledge of the commonly used drugs in veterinary medicine. This includes a knowledge of pharmacokinetics, drug classifications, indications and routes of administration, and the skills to calculate drug dosages.

WD: WELDING

WD 4.151 Welding I
(4 class hrs/wk, 2 cr) F/W/Sp
Stresses safety and equipment familiarization, with lab exercises for skill development in basic gas and electric arc welding. Includes technical information lectures in related subjects.

WD 4.152 Welding II
(4 class hrs/wk, 2 cr) F/W/Sp
Provides welding skill level required in minor industrial applications. Includes more advanced electric arc-welding and an introduction to gas-shielded arc processes (MIG and TIG), as well as lab and technical information on related welding subjects. Prerequisite: WD 4.151 Welding I.

WD 4.156 Machinery Operation and Maintenance
(3 class hrs/wk, 3 cr) Sp
A comprehensive study of the in-plant installation, operation and maintenance of manufacturing machinery. Includes safety, rigging, pumps, compressors, bearings, lubrication, motors with couplings, and clutches. Also includes machinery alignment and how it is accomplished. Prerequisite: Instructor's approval.

WD 4.157 Machinery Operation Essentials
(3 class hrs/wk, 3 cr) Sp
Introductory class to the mechanical aspects of manufacturing trades. The class provides an overview of many important aspects a student will encounter entering into the industrial trades.

WD 4.160 Prep for Certification
(4 class hrs/wk, 2 cr) F/W/Sp
A course designed to allow the individual who has achieved sufficient welding skill proficiency to prepare for applicable AWS Plate Welder Qualification tests and/or ASME Pipe Welder Qualification tests. The student may test during the course upon receiving instructor written permission based on instructor evaluation of student demonstrated welding skill level, welding technique, weld quality and consistency. Testing is performed by an independent testing agency. Prerequisite: WD 4.152 Welding II or instructor approval.

WD 4.240 Basic Arc Welding (SMAW)
(12 class hrs/wk, 6 cr) F
A beginning career course stressing safety and equipment familiarization, with lab exercises for skill development in basic fundamentals of electric arc welding (SMAW) process. It includes technical information lectures in related subjects. Prerequisite: WD 4.151 Welding I, previous welding classes or experience, or instructor's approval.

WD 4.241 Intermediate Arc Welding (GMAW and GTAW)
(12 class hrs/wk, 1–6 cr) W
A continuing career course stressing safety and equipment familiarization with lab exercises for skill development in the fundamentals of electric arc welding process. It includes technical information lectures in related subjects. The process covered in this course are GMAW and GTAW. Prerequisite: WD 4.240 Basic Arc Welding or instructor's approval.

WD 4.242 Fabrication and Repair Practices I
(8 class hrs/wk, 4 cr) F
Introduces oxyacetylene welding and cutting practices on mild steel of various thicknesses and joint configurations in all positions. Covers basic fundamentals of fabrication and joint alignment. Prerequisite: WD 4.151 Welding I, previous welding classes or experience, or instructor's approval. Corequisite: WD 4.240 Basic Arc Welding.

WD 4.243 Fabrication and Repair Practices II
(8 class hrs/wk, 1–4 cr) W
Covers fundamentals of welding fabrication and repair. Introduces basic procedures in planning, sketching, cost evaluation, ordering, layout, metal preparation, tack-up and final welding. Prerequisite: WD 4.240 Basic Arc Welding; WD 4.242 Fabrication and Repair Practices I or instructor's approval.

WD 4.245 Layout Procedures for Metals
(4 class hrs/wk, 3 cr) Sp
Introduces layout principles and applications. Tools and equipment for layout are studied in respect to their operating performance, with emphasis on maintenance. Includes planning and construction of templates, layout and specific fabrication to examine process quality. Prerequisites: WD 4.247 Interpreting Metal Fabrication Drawings; WD 4.258 Basic Print Reading: Welders; or instructor's approval.

WD 4.246 Advanced Arc Welding (SMAW and FCAW)
(12 class hrs/wk, 1–6 cr) Sp
Stresses safety and equipment familiarization with lab exercises for skill development in the fundamentals of electric arc welding SMAW and FCAW processes. It includes technical information lectures in related subjects and preparation for AWS welder's certification. Prerequisites: WD 4.240 Basic Arc Welding and WD 4.241 Intermediate Arc Welding or instructor's approval.

WD 4.247 Interpreting Metal Fabrication Drawings
(4 class hrs/wk, 3 cr) W
Introduces the principles of interpretation and application of industrial fabrication drawings. Basic principles and techniques of metal fabrication are introduced by planning and construction of fixtures used in fabrication from drawings. Basic tools and equipment for layout fitting of welded fabrications are utilized. Covers the use and application of the AWS welding symbols. Prerequisite: WD 4.258 Basic Print Reading: Welders.

WD 4.250 Fabrication and Repair Practices III
(8 class hrs/wk, 4 cr) Sp
Continues WD 4.243 Fabrication and Repair Practices II. Provides a more in-depth approach to welding design, fabrication and repair. Uses the principles and techniques of metal fabrication from drawings. Prerequisites: WD 4.243 Fabrication and Repair II or instructor's approval.

WD 4.251 Fundamentals of Welding Inspection
(4 class hrs/wk, 3 cr) Sp
Covers general duties and responsibilities of the welding inspector, including the essential subject matter required to judge the quality of welded products to meet the requirement of specifications and code standards. The course offers a comprehensive review of welding procedures, metallurgical considerations, materials control, weld defects testing, examination methods and inspection techniques. Prerequisite: Previous occupational/training experience with direct relationship to weldments, design production, construction-inspection or NDT testing.

WD 4.255 Fabrication of Structural Systems
(8 class hrs/wk, 4 cr) W
In this skill-building course, students gain advanced oxy-fuel cutting and fabrication skills using various structural materials and components. Includes applied mechanical blue print reading, cost estimating, ordering, inventorying materials, layout and final assembly. Prerequisites: WD 4.250 Fabrication and Repair Practices III, WD 4.152 Welding II, WD 4.258 Basic Print Reading and WD 4.245 Layout Procedures for Welding, or instructor's approval.

WD 4.256 Basic Pipe Welding Skills
(8 class hrs/wk, 4 cr) F
Introduces and provides hands-on skill development in basic vertical-up open-v groove butt-joint pipe welding techniques on carbon steel pipe with the shielded metal arc welding and gas tungsten-arc welding (TIG) processes. Includes technical information lectures in related subjects. Prerequisite: WD 4.152 Welding II or instructor's approval.

WD 4.257 Fabrication and Repair: Applied Problem Solving
(8 class hrs/wk, 4 cr) Sp
Introduces students to the problem-solving process in many fabrication and repair of welded structures and piping system applications. Prerequisite: WD 4.255 Fabrication of Structural Systems.

WD 4.258 Basic Print Reading: Welders
(4 class hrs/wk, 3 cr)
Introduces principles of welding fabrication drawings. Visualization of parts and projects, dimensioning and sketching are presented to develop the skills necessary to function in the fabrication and repair field and other related fields that require knowledge of prints.

WD 4.260 Basic Wire-Feed Welding
(4 class hrs/wk, 2 cr)
Provides the basic information and hands-on skills required to operate the MIG short arc (gas metal-arc welding short-circuiting metal transfer), MIG spray transfer (gas metal-arc welding spray transfer), and gas-shielded flux-cored arc welding processes on steel in the flat, horizontal, and vertical positions as applicable to each specific welding process. Technical information lectures will include related subject areas such as basic machine set up and operation, process limitations, the welding machine wire-feeding mechanism, and required shielding gas types for the MIG short arc, MIG spray transfer, and gas-shielded flux-cored welding processes on steel. Prerequisite: WD 4.152 Welding II or instructor approval.

WD 4.265 Print Reading and Welding Exploration
(4 class hrs/wk, 3 cr) F
Basic introduction of print reading and welding principles. In the area of blue print, the class will emphasize views, how and when they are used, and terms and symbols. In the area of welding, the class emphasis will be safety, the basics of oxy-acetylene process, shielded metal arc welding and gas metal arc welding.

WD 4.280 Aluminum Welding GTAW and GMAW
(4 class hrs/wk, 2 cr)
Provides additional hands-on skill development with the Gas Tungsten-Arc Welding process on aluminum alloys beyond the introduction provided in prerequisite WD 4.152 Welding II; also provides an introduction to the Gas Metal-Arc Welding process on aluminum alloys. Includes technical information lectures in related subject areas. Prerequisite: WD 4.152 Welding II or instructor's approval.

WE: COOPERATIVE WORK EXPERIENCE—CAREER EXPLORATION

WE 202 CWE Seminar
(1 class hr/wk, 1 cr) F/W/Sp/Su
The CWE seminar is a course designed to provide opportunities for students involved in a CWE course to share work-related experiences with their work experience coordinator. Note: May be repeated for up to four credits.

WE 280 Cooperative Work Experience – Career Exploration
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program designed to give students practical experience in a supervised training position related to their career interest. Students identify learning objectives, work a specified number of hours during the term and participate in related seminar activities. Credits earned are based upon identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

WR: WRITING

WR 050 Survey of Basic Writing Skills
(3 class hrs/wk, 3 cr) F/W/Sp
Designed for students who are preparing for WR 090 The Write Course or the GED Writing Test and for people who want to brush up on their writing skills. It includes grammar, sentence construction, punctuation, some reading, and informal and formal writing practice. The course also includes basic instruction for using a computer to write documents. It is appropriate for ESOL students who have very high level speaking and listening skills. Prerequisite: Appropriate score on the writing portion of the Computerized Placement Test or referral from GED or ESOL faculty.

WR 075 Spelling
(3 class hrs/wk, 3 cr) W/Sp
Introduces students to a highly interactive approach to eliminate the most common spelling errors. Includes developing a bank of tools and strategies that enable students to continue to improve. Prerequisite: RD 070 Foundation Reading Skills or appropriate score on reading portion of Computerized Placement Test. Non-native speakers are advised to co-register for a vocabulary course.

WR 083 English Review for College Preparation
(2 class hrs/wk, 2 cr) As needed
Designed for people who are thinking about coming to LBCC and want to brush up on language skills as well as explore issues related to returning to school. Includes some basic grammar and punctuation instruction, reading skills and informal writing practice. The course also includes basic instruction for using a computer to write documents.

WR 085 Writing Refresher Online
(3 class hrs/wk, 3 cr) W/Sp
Reviews writing skills required for effective communication by focusing on basic writing conventions in sentences and paragraphs. Instruction includes basic communication skills, language mechanics, grammar, some spelling, sentence structure and paragraph development. Designed for students who want a refresher on the basic components of good writing. After taking the course, students wishing to continue in writing classes would retake the placement test to see which class to take next. Prerequisite: Successful completion of WR 050 or appropriate score on the Computerized Placement Test, basic computer skills and access, on-site orientation session.

WR 090 The Write Course
(4 class hrs/wk, 4 cr) F/W/Sp/Su
Introduces writing required for effective communication. This course focuses on English conventions, writing sentences, and basic paragraph writing. Prerequisite: Successful completion of WR 050 (with a "C" grade or better) or an appropriate minimum score on the writing portion of the Computerized Placement Test.

WR 095 College Writing Fundamentals
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Prepares students to successfully use the writing process (plan, draft, revise, edit, proofread); use specific, sufficient, relevant support as evidence to support ideas; effectively use appropriate writer's resources; and edit and proofread for standard English and correct punctuation. Prerequisite: Successful completion of WR 090 the Write Course ("C" or better grade) or appropriate score on the Computerized Placement Test.

WR 115 Introduction to College Writing
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Introduces college-level critical inquiry in academic and professional reading and writing. WR 115 students critically read, summarize, and respond in paragraph format. Students develop expository essay writing skills, review conventions, and use individual and collaborative processes. Note: This course does not satisfy institutional writing requirements for the degree seeking or transfer student.

WR 121 English Composition
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Covers processes and fundamentals of writing expository essays, including structure, organization and development, diction and style, revision and editing, mechanics and standard usage required for college-level writing. Placement determined by pre-enrollment testing (CPT). Prerequisite: Placement in WR 121 is determined by pre-enrollment testing (CPT) or by passing WR 115 with a grade of "C" or better. Students may challenge their mandatory placement, with an advisor's approval, by signing a self-placement form through their counselor.

WR 122 English Composition: Argumentation
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Emphasizes the logical means of supporting claims in argumentative essays, thesis statements and reasoning. Includes logic, style and research. Prerequisite: WR 121 English Composition or equivalent.

WR 123 English Composition: Research
(3 class hrs/wk, 3 cr) W/Sp
Introduces informative and analytical writing supported by research. Students design a research plan, use primary and secondary sources critically, develop research methods, use proper documentation and develop writing strategies for longer papers. Prerequisite: WR 121 English Composition.

WR 185 Understanding English Grammar
(3 class hrs/wk, 3 cr) W
Explores the structure of the English language as well as its grammatical conventions. Students may then make grammatical choices realizing the rhetorical effects of those choices on the reader. This is not a remedial course. Prerequisite: WR 121 English Composition.

WR 214 Business Communication
(3 class hrs/wk, 3 cr) F/W/Sp
Explores writing as a strategy for problem-solving in business settings. Develops analytical skills and audience awareness in complex writing situations. Includes group problem-solving, fact-finding interviewing, library and internet-based research, evaluating ethical issues, developing appropriate formats and composing, revising, designing, and editing business documents. Emphasizes written and oral communication in business, including information gathering, writing, editing, listening, interviewing, nonverbal communication, and collaboration. Prerequisite: WR 121 English Composition.

WR 227 Technical Writing
(3 class hrs/wk, 3 cr) F/W/Sp/Su
Introduces students to the types of writing they will encounter in business, industry, the academic world and government. It examines the rhetorical nature of writing and asks students to think critically about content, audience, argument and structure. Students will design, write and revise descriptions, job application documents (resumes and application letters), instructions, proposals and formal technical reports. Prerequisite: WR 121 English Composition.

WR 228 Technical Writing II
(3 class hrs/wk, 3 cr) W
Advances student knowledge of producing technical documents to meet a variety of industry standards for reports and record keeping with professional editing skills. Student must complete an advanced capstone project in his or her main interest area. Keyboarding and design program knowledge encouraged. Prerequisite: "C" or better in WR 227 Technical Writing or comparable and demonstrable workplace training and experience.

WR 240 Creative Writing: Nonfiction
➢(3 class hrs/wk, 3 cr) On Demand
Practices the use of journals to record and reflect on personal experiences, to experiment with different writing techniques, and to gather and develop material for other writing projects. Emphasizes learning to write freely. Note: May be repeated for up to six credits. Prerequisite: WR 121 English Composition.

WR 241 Creative Writing: Fiction
➢(3 class hrs/wk, 3 cr) F/W/Sp
Studies elements of short fiction (dialogue, setting, character, conflict, etc.) using workshop sessions in which students discuss the exercises and stories of their classmates. Note: May be repeated for up to six credits. Prerequisite: WR 121 English Composition.

WR 242 Creative Writing: Poetry
➢(3 class hrs/wk, 3 cr) Sp
Studies basic elements of poetry, types of poetry, uses for poetry and the process of creating poetry. Emphasizes fostering individual style. Note: May be repeated for up to six credits. Prerequisite: WR 121 English Composition.

WR 243 Creative Writing: Script Writing
➢(3 class hrs/wk, 3 cr) Sp
Focus on writing and submitting scripts for class discussion and analysis. Studies established writers and film for techniques, structures and styles. Note: May be repeated for up to six credits. Prerequisite: WR 121 English Composition and ENG 110 Film Studies strongly recommended.

WR 244 Advanced Creative Writing: Fiction
➢(3 class hrs/wk, 3 cr) W
Focuses on continuing to apply the techniques and structures of fiction writing introduced in WR 241. Includes writing fiction, having work critiques by instructor and peers, and critiquing that of others in a workshop setting. Note: May be repeated for up to six credits. Prerequisite: WR 121 English Composition and WR 241 Creative Writing: Fiction.

WR 246 Editing and Publishing
(3 class hrs/wk, 3 cr) Sp
Develops the publishing and graphics skills of students with previous writing experience. Introduces hands-on application of current electronic environments and design principles. Note: May be repeated for up to six credits. Prerequisite: WR 121 English Composition.

WR 247 Literary Publication
(3 class hrs/wk, 3 cr) W
Develops evaluation principles and selects literature, creative nonfiction, fiction, poetry and art for publication in the campus Web-based literary publication. Note: May be repeated for up to six credits. Prerequisite: WR 121 English Composition, ENG 104 Literature: Fiction, and ENG 106 Literature Poetry strongly recommended.

WR 280 CWE English/Writing
(6–42 class hrs/wk, 2–14 cr) F/W/Sp/Su
Gives students practical experience in supervised employment related to writing. Students identify job performance objectives, work a specified number of hours during the term, and attend a related CWE seminar. Note: Credits are based on identified objectives and number of hours worked. Prerequisite: CWE coordinator approval.

WR 280S Service-Learning English/Writing
(3–42 class hrs/wk, 1–14 cr) F/W/Sp/Su
An instructional program, using contextual learning, designed to promote critical thinking, citizenship and civic responsibility as students work with community partners in addressing real community needs. Students identify learning objectives, work a specified number of hours during the term, and engage in faculty-led guided reflection activities. Prerequisites: Students must have taken or must be currently taking appropriate course or courses in their major field of study. They must also have their Service-Learning approved by the appropriate faculty coordinator.

WR 1.050 Survey of Basic Writing Skills
(3 class hrs/wk, 0 cr) F/W/Sp
Designed for students who are preparing for the GED Writing Test and for ESOL students who want to improve their writing skills. It includes grammar, sentence construction, punctuation, some reading, and informal and formal writing practice. The course also includes basic instruction for using a computer to write documents. Prerequisite: Referral from GED or ESOL faculty and payment of GED/ESOL fee.

WW: WATER WASTEWATER TECHNOLOGY

WW 6.154 Process Control I
(6 class hrs/wk, 4 cr) F
First course of a two-course sequence addressing advanced level monitoring, operation and control concepts for biological treatment processes. Introduces identification of process monitoring tools, data collection, process control calculations and interpretation for biological process evaluation and problem solving. The activated sludge wastewater treatment process is the application for this class. Computer applications including e-mail, world wide web browsers, and spreadsheet programs are used for communication and data analysis.

WW 6.155 Process Control II
(4 class hrs/wk, 3 cr) W
Second course in the two-course sequence addressing advanced level monitoring, operation and control concepts for biological treatment processes. Continues the monitoring and computer-aided data interpretation for biological process evaluation and problem solving. Both suspended growth processes and attached growth processes are the applications for this class. Advanced control topics, including filamentous bacteria identification, biological nitrogen removal and biological phosphorus removal, are covered. Special topics and current issues are discussed as time allows. Prerequisite: WW 6.154 Process Control I; sophomore standing in the Water/Wastewater Program.

WW 6.156 Industrial Electricity
(4 class hrs/wk, 3 cr) F/W
Provides the student with a hands-on survey of electricity/electronics. Topics include DC & AC electricity, Ohm's Law, series and parallel circuits, electrical sources, semiconductor electronics and motors. The student will have an opportunity to construct various electrical circuits and test the electrical parameters associated with them, thereby confirming theoretical predictions and gaining knowledge in the proper use of electrical test equipment. Prerequisite: MTH 060 Introduction to Algebra or equivalent. Introduces basic DC electrical theory, safety, and multimeter use. Introduction to single and three phase concepts and measurements. Prepares the student for basic electrical troubleshooting required in other industrial trades. Prerequisite: MTH 065 Elementary Algebra.

WW 6.164 Water Sources
(4 class hrs/wk, 3 cr) F
A basic class for water resource managers. Includes surface and groundwater sources. Covers hydrology, water quality, laws and regulations, flow measurements, storage, intake structures and wells.

WW 6.165 Water Distribution and Collection Systems
(2 class hrs/wk, 2 cr) Sp
Describes the management, operation and maintenance of water distribution and sewage collection systems.

WW 6.166 Water Purification Systems
(5 class hrs/wk, 4 cr) F
An advanced-level course covering the theory, application and operation of potable water treatment systems. Theory and operation of mixing systems, coagulation chemistry, optimization of chemical applications, flocculation, sedimentation and water filtration are covered. Special related topics in potable water supply may be added as time permits.

WW 6.167 Water Distribution and Collection Lab
(2 class hrs/wk, 1 cr) Sp
This laboratory course is designed to parallel the topics covered in WW 6.165 Water Distribution & Collection Systems. Covers the description and Describes the application of materials and design practices used in the construction of roads, water distribution systems and sewage collection systems. Prerequisite: MTH 095 Intermediate Algebra.

WW 6.168 In-Plant Practicum
(40 class hrs/wk, 2–12 cr) Su
In-Plant Practicum consists of full-time work in a water or wastewater treatment facility. Skills and knowledge developed in first-year courses are combined with on-the-job training by both plant supervisory personnel and LBCC visiting instructors. Prerequisites: WW 6.190 Introduction to Environmental Science, WW 6.191 Water Systems Operations, WW 6.192 Wastewater Systems, WW 6.193 Introduction to Aquatic Chemistry and Microbiology, WW 6.195 Intermediate Aquatic Chemistry and Microbiology.

WW 6.171 Industrial Water/Wastewater Treatment
(3 class hrs/wk, 3 cr) W
An overview course covering the related applications of water and wastewater treatment in industrial installations. Covers regulatory requirements, ultra-pure water treatment systems, physical-chemical waste treatment systems, and the treatment of metal waste streams.

WW 6.181 Water/Wastewater Mechanics
(4 class hrs/wk, 3 cr) Sp
Covers the specific equipment and mechanical skills required in the water and wastewater treatment industry. Topics include blueprint reading, drive systems, application of steel, PVC and copper pipe, valves and hydrants, backflow devices, positive displacement pumps, centrifugal pumps, chlorinators.

WW 6.190 Introduction to Environmental Science and Technology
(7 class hrs/wk, 6 cr) F
Introduces students to field of environmental science, pollution control, and environmental technology. Provides the basic understandings of the normal ecology of the planet and the risks associated with pollution of our environment. Sources of environmental pollution and control technologies including safe drinking water, wastewater treatment, air pollution, solid waste, and hazardous waste management. Corequisites: MTH 060 Introduction to Algebra; WR 115 Introduction to College Writing.

WW 6.191 Water Systems Operation
(12 class hrs/wk, 7 cr) Sp
Develops a basic understanding of water systems operations, including surface water source and watershed management, groundwater sources and development, raw water storage and intakes, coagulation, flocculation, sedimentation, filtration, disinfection, and finished water storage and distribution. Prerequisites: WW 6.190 Introduction to Environmental Science. Corequisite: MTH 065 Elementary Algebra.

WW 6.192 Wastewater Systems
(12 class hrs/wk, 7 cr) W
Develops a basic understanding of wastewater systems operations, including primary sedimentation, disinfection, aerobic and anaerobic sludge digestion, oxidation ponds, bio-filters and bio-reactors, and solids handling and disposal. Prerequisite: WW 6.190 Introduction to Environmental Science. Corequisite: MTH 065 Elementary Algebra.

WW 6.193 Introduction to Aquatic Chemistry and Microbiology
(8 class hrs/wk, 4 cr) F
The first in a sequence of three chemistry and microbiology courses for water and wastewater technology students. This course covers general chemistry and microbiology skills and concepts that are applied in the second and third courses in the year-long sequence. Laboratory activities cover lab safety and basic lab skills.

WW 6.194 Basic Aquatic Chemistry and Microbiology
(8 class hrs/wk, 4 cr) W
A continuation of WW 6.193 Introduction to Aquatic Chemistry and Microbiology. Covers basic concepts relevant to wastewater treatment and applies them to common wastewater laboratory techniques (e.g. the BOD test, solids tests, microscopic identification, MPN). Prerequisite: WW 6.193 Introduction to Aquatic Chemistry and Microbiology or instructor's approval.

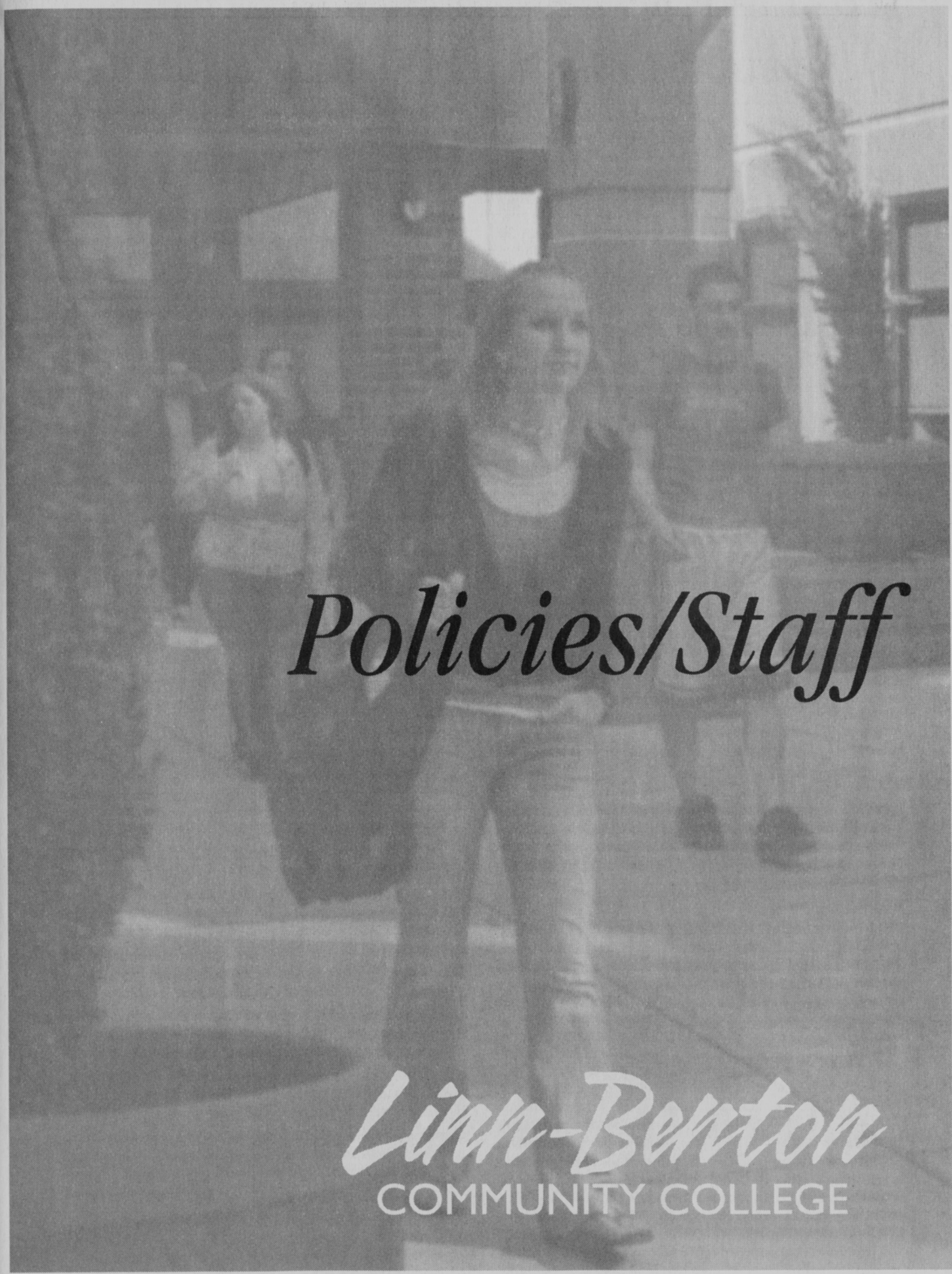
WW 6.195 Intermediate Aquatic Chemistry and Microbiology
(8 class hrs/wk, 4 cr) Sp
Continues WW 6.194 Basic Aquatic Chemistry and Microbiology. Covers basic concepts relevant to drinking water treatment and applies them to common laboratory techniques (e.g. alkalinity, hardness, turbidity, jar test, PA test, chlorine residual). Prerequisite: WW 6.194 Basic Aquatic Chemistry and Microbiology or instructor's approval.

WW 6.197 Solids Handling
(6 class hrs/wk, 3 cr) Sp
Deals with the various processes of solids handling and management. Includes aerobic and anaerobic digestion, centrifugation, gravity concentration, gravity thickening, flotation thickening, filter presses, vacuum presses, incineration, land fill and land application. Laboratory control procedures and sludge conditioning also are covered. Prerequisite: WW 6.154 Process Control I and sophomore standing in the Water/Wastewater program.

WW 6.198 Instrumentation
(5 class hrs/wk, 4 cr) Sp
Provides an introduction to the instrumentation processes used to monitor and control contemporary water and wastewater treatment facilities. Measurement of temperature, pressure, liquid level and flow, and the transmission and control of these parameters will be discussed. Prerequisite: WW 6.156 Industrial Electricity.

WW 6.199 Introduction to Hydraulics
(4 class hrs/wk, 2 cr) F
Provides an introduction to hydraulics for water/wastewater treatment plant operators. Includes performing basic hydraulic computations, hydraulic measurement units, pressure, head, head loss, flow and pump calculations. Corequisite: MTH 060 Introduction to Algebra.

WW 6.235 Applied Hydraulics
(3 class hrs/wk, 3 cr) W
A practical course covering flow, head and head loss calculations, pump calculations and pump curves. Applications are made to water distribution systems and sewage collection systems. Corequisite: MTH 095 Intermediate Algebra.


Policies/Staff
Linn-Benton
COMMUNITY COLLEGE

LBCC's Alcohol- and Drug-Free Program

As one part of its Alcohol- and Drug-free (Workplace/School) Program, Linn-Benton Community College has developed a brochure to provide students and staff information about the health risks associated with the use of illegal drugs and abuse of alcohol. It also includes standards of conduct required of students and staff, LBCC sanctions, legal sanctions, and counseling and treatment resources available in the area. This document has been printed here in abbreviated form. To obtain the full-text document, contact LBCC's Human Resources Office, 917-4420, or view online at *www.linnbenton.edu/to/about-lbcc policies/drugfree.*

I. Introduction

Linn-Benton Community College is legally required and morally committed to the prevention of illicit drug use and the abuse of alcohol by both students and employees. Drug and alcohol abuse is a significant public health problem which has spread throughout our society, affecting performance and productivity, as well as our level of general health. In addition, the use of drugs can adversely affect an organization's level of safety as well as its public confidence and trust.

In brief, this section has been developed by LBCC to comply with the federal law and to educate and inform its students and employees of the health risks, counseling and treatment resources, and sanctions for noncompliance. Linn-Benton will biennially review this program to determine its effectiveness and implement changes if needed and to ensure that the sanctions required are consistently enforced.

II. Standards of Conduct

Students

The LBCC *Student Rights, Freedoms, Responsibilities & Conduct* document (page 6, number 14) defines the following behaviors as violations of the standards of student conduct: "use, possession, or distribution of alcoholic beverages, narcotics, or dangerous drugs except as expressly permitted by law." The document may be viewed online at *www.linnbenton.edu/go/studentrights.*

Employees

In compliance with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act Amendment of 1989 (Public Law 101-226), it shall be the policy of Linn-Benton Community College to maintain an alcohol and drug-free workplace for all employees of the District. The unlawful manufacture, distribution, dispension, possession or use of alcohol or a controlled substance, except by physician's prescription, is strictly prohibited in the workplace(s) of the Linn-Benton Community College District.

III. A Description of the Health Risks Associated with the Use of Illicit Drugs and the Abuse of Alcohol

Illicit Drugs

Marijuana is addictive and can cause: impaired short-term memory, visual tracking, heart rate, slowed reaction time/poor coordination, lung disease and damage to reproductive functions.

Cocaine and Crack are highly addictive and may cause: impaired judgment, short attention span, irritability, depression, mood swings, malnutrition, severe weight loss and liver damage, coma, seizure and heart attack.

PCP, LSD, Heroin, Mescaline and Morphine have a wide variety of negative health effects which may include: hallucinations, mental confusion and/or permanent loss of mental function, addiction, convulsions, coma, death.

Prescription Drugs are too often used to reduce stress and are not safe unless they are taken as prescribed. If abused, they can lead to: malnutrition, sluggishness or hyperactivity, impaired reflexes, addiction and brain damage, coma, death.

Alcohol is the most commonly abused drug and can cause: loss of concentration, poor judgment and coordination, impaired memory, drowsiness and mood swings, liver damage/cirrhosis of the liver, high blood pressure and heart attack, pancreatitis, various cancers, heart disease.

IV. A Description of the Applicable Legal Sanctions under Local, State, and Federal Law for Unlawful Possession, Use, or Distribution of Illicit Drugs and Alcohol

The following chart describes the penalties in general for possession of key drugs according to the Federal Drug Schedules.

	Maximum Prison Time	Maximum Fine
Schedule I - Class B Felony Heroin, LSD, other hallucinogens, marijuana, others	10 years	$100,000
Schedule II - Class C Felony Methadone, morphine, amphetamine, cocaine, PCP	5 years	$100,000
Schedule III - Class A Misdemeanor Non-amphetamine stimulants, some depressants	1 year	$2,500
Schedule IV - Class C Misdemeanor Valium-type tranquilizers, some less potent depressants	30 days	$500
Schedule V - Violation Dilute mixtures, compounds with small amounts of controlled drugs	none	$1,000

Delivery of less than five grams or possession of less than one ounce of marijuana is a violation. HB 2479 established mandatory evaluation, education and treatment services for those under 18 years of age. If services are successfully completed, the charge will be dropped. Oregon has strong laws allowing cars, boats, etc. that transport illegal drugs to be seized and forfeited. Alcohol is an illegal drug for those under 21 years of age. For drivers under 18, ANY detectable amount of alcohol (above .00 BAC) is grounds for losing their license until they are 18. There are many more laws pertaining to alcohol and other drugs. This is a sample to demonstrate that most drugs are VERY illegal, and a criminal conviction may bar a student from their chosen career path or an employee from successful employment with the college.

V. LBCC Sanctions

Students

Sanctions which may be imposed on students for violations of the code include: *disciplinary warning, disciplinary probation* (a written warning by the dean of student services or college president), *temporary exclusion* (removal for up to two class periods or longer), *suspension* (exclusion from classes and activities and/or forfeiture of the right to enter the campus, *expulsion* (termination of student status).

Employees

The college will impose sanctions or require satisfactory completion of a drug abuse assistance or rehabilitation program. Sanctions imposed may include *disciplinary probation* (the suspension of a more severe penalty for a specific time period, based upon good behavior), *suspension* (the temporary barring from employment for a specific time period, without pay), and/or *termination* (the severance of employment with the college).

VI. Assistance Programs Available to Students and Employees

Benton County Alcohol and Drug Treatment Program 766-6835
Linn County Alcohol and Drug Treatment Program 967- 3819
Alcoholics Anonymous, Linn & Benton counties 766-3677
Ala-Non, Linn & Benton counties 967-6262
Narcotics Anonymous Helpline 1-877-233-4287
Drug & Alcohol Abuse Hotline 1-800-621-1646
Community Outreach/ASSETS 758-3000
Teen Challenge, Inc. 1-503-585-6278
Milestones Family Recovery Program, Corvallis 753-2230
Serenity Lane, Albany 928-9681

College Resources for Students:

Counseling Center, Takena Hall 917-4780

College Resources for Employees:

LBCC provides an Employee Assistance Program (EAP), available to all contracted employees. Through this program, each employee and his or her dependents are allowed five visits per year at no cost for appraisal, limited counseling and/or referral. All employee contact with EAP is **strictly confidential.** Phone numbers for EAP include: (800/922-7009; Corvallis (541/754-8004) or Eugene (541/344-6929).

Faculty and Administrative Staff

State Administrative Staff

Oregon State Board of Education

Jerry Berger
Steve Bogart
Brenda Frank
Vanessa Gaston
Emilio Hernandez, Jr.
Nikki Squire
Duncan Wyse

Department of Community Colleges and Workforce Development

Cam Preus-Braly, Commissioner

LBCC Administrative Staff

LBCC Board of Education

Ann Brodie, Corvallis
Hal Brayton, Lebanon
Janice Horner, Sweet Home
Ron Mason, Corvallis
Thomas Wogaman, Corvallis

LBCC Administration

Rita Cavin, President
Mike Holland, Vice President for Administrative and Student Affairs
Carol Schaafsma, Vice President for Academic Affairs
Elizabeth Lundy, Dean, Curriculum and Educational Assessment
Diane Watson, Dean of Student Services

Adams, Ann
Director, Information Services. BS, Colorado State University.

Aflatooni, Arfa
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Agnew, Virgil
Faculty, Developmental Studies. BA, University of Kansas; BEd, University of Kansas; MA, Lamar University.

Aikman, John
Faculty, Graphic Design. BS, Oregon State University; MFA, University of Wyoming.

Alvin, John
Faculty, Heavy Equipment Diesel Technology/ Construction and Forestry Technology. AS, Linn-Benton Community College; Master ASE Certificate (Diesel/Heavy Equipment).

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Anselm, Scott
Faculty, Culinary Arts/Food Services. AOS, Culinary Institute of America; Certified Environmental Sanitor; member, American Culinary Federation.

Apter, Joanne
Faculty, Turning Point. BA, University of Wisconsin; MEd, Oregon State University.

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Bailey, Joseph
Faculty, Training Specialist, Business and Employer Services. BS, Western Washington University; MA, Antioch University.

Bailey, Marci
Faculty, Physical Sciences. AB, Ripon College; MS, Washington State University.

Bain, Lynn
Counselor. BS, University of Hawaii; MS, Western Oregon University.

Barbee, Louis
Faculty, Machine Tool. More than 20 years experience in the machining field.

Becker, David
Faculty, Computer Systems. BS, MS, Oregon State University.

Bell, Andrea
Faculty, Mathematics. Licence and Maitrise (BS), DEA (MS), Universite Paris; PhD, Oregon State University.

Bell, James W.
Division Dean, Health and Human Services. BS, Western Oregon University; MS, MAIS, EdD, Oregon State University.

Beudert, Jennifer
Faculty, Education/Child and Family Studies. BA, Swarthmore College; MS (two), Bank Street College of Education, NY.

Billetter, Sharon
Faculty/Coordinator, Dental Assisting. CDA, EFDA, AGS, Linn-Benton Community College; BS, Green Mountain College; MADAA.

Brittsan, Virginia
Faculty, ADN Program. RN, BSN, Texas Women's University; MSN, Oregon Health Sciences University.

Bronson, Roberta
Faculty, ADN Program. RN, BSN, Loma Linda University; MS, California State University.

Brown, Joyce
Faculty, Parenting Education/Adult Basic Education. BS, MEd, Oregon State University.

Browning, Mary J.
Faculty, English for Speakers of Other Languages. BA, Concordia University; MA, McGill University.

Burchard, Russ
Faculty, Adult Basic Skills. BA, University of Colorado; MAT, Oregon State University.

Byrne, James
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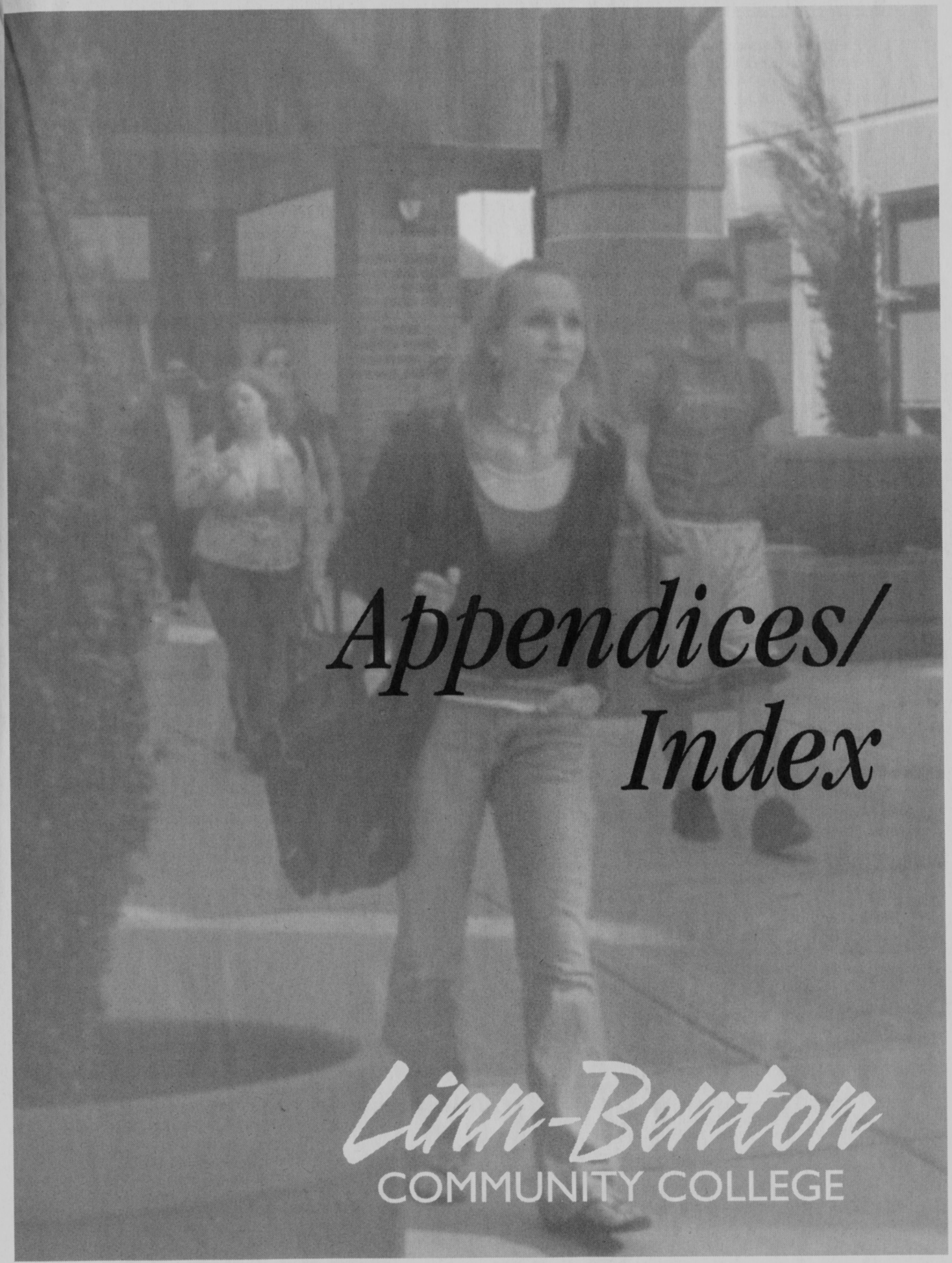
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Appendices/ Index

Appendix A

Requirements for the Associate of Applied Science Degree

1. Complete the general education requirements and the required major curriculum as outlined.
2. Complete a minimum of 90 credits (some programs require more).
3. Complete a minimum of 24 credits at LBCC.
4. Maintain a minimum accumulative grade point average of 2.00 or better.

General Education Requirements

Listed below are the general education requirements for the AAS degree. Where options exist, see a department advisor for assistance. Courses numbered with 0. (zero decimal point) do not apply toward this degree.

Writing/Composition. *Take the following course:*

WR 121	English Composition (3 credits) (You must have passed WR 115 with a grade of "C" or better or attained an appropriate score on the Placement Test to enroll in WR 121.)	
	Writing/Composition Credits Required	**3**

Speech. *Select one speech course from the following:*

SP 100	Introduction to Speech Communication (3 credits)	
SP 111	Fundamentals of Speech (3 credits)	
SP 112	Introduction to Persuasion (3 credits)	
SP 218	Interpersonal Communication (3 credits)	
	Speech Credits Required	**3**

Math. *Take the following math course:*

MTH 061	Survey of Math Fundamentals (3 credits) (You must have attained an appropriate score on the Placement Test to take MTH 061 or have received a "C" or better in MTH 060.)	

Also take one of the following math courses or a higher level math course:

MTH 062	Occupational Trigonometry (1 credit)	
MTH 063	Industrial Shop Math (1 credit)	
MTH 064	Business Applications of Math Fundamentals (1 credit)	
	Math Credits Required	**4**

Health & Physical Education. *Select three credits from the list below. (Only one activity course may be taken twice to meet general education requirements. No more than two activity courses per term will count toward general education requirements.)*

HE 112	Emergency First Aid (1 credit)	
HE 125	Occupational Safety & Health (3 credits)	
HE 225	Social & Individual Health Determinants (3 credits)	
HE 252	First Aid (3 credits)	
HE 261	CPR (1 credit)	
PE 180	Activity Courses (1 credit)	
PE 185	Activity Courses (1 credit)	
PE 190	Activity Courses (1 credit)	
PE 231	Lifetime Health & Fitness (3 credits)	
	Health & Physical Education Credits Required	**3**

Science, Technology and Society Perspective. *The following courses have been approved by the Curricular Issues Committee to meet the Science, Technology and Society general education perspectives requirement for the Associate of Applied Science degree.*

GS 151	Energy in Society (3 credits)	
GS 152	Science, Technology & Society (3 credits)	
HST 150	Science & Culture in the Western Tradition (3 credits)	
HSTS 151	History of Science (3 credits)	
WW 6.190	Introduction to Environmental Science (6 credits)	
	Science, Technology & Society Credits Required	**3**

Cultural Diversity and Global Awareness Perspective. *The following courses have been approved by the Curricular Issues Committee to meet the Cultural Diversity and Global Awareness general education perspectives requirement for the Associate of Applied Science degree. Choose one course:*

ANTH 103	Introduction to Cultural Anthropology (3 credits)	
ANTH 210	Comparative Cultures (3 credits)	
ANTH 232	Native North Americans (3 credits)	
ART 102	Understanding Art (3 credits)	
ART 204	History of Western Art (3 credits)	
ART 205	History of Western Art (3 credits)	
ART 206	History of Western Art (3 credits)	
BA 224	Human Resource Management (3 credits)	
BA 285	Business Relations in a Global Economy (4 credits)	
EC 115	Outline of Economics (4 credits)	
EC 201	Introduction to Microeconomics (4 credits)	
EC 202	Introduction to Macroeconomics (4 credits)	
EC 220	Contemporary U.S. Economic Issues (3 credits)	
ENG 104	Literature: Fiction (3 credits)	
ENG 105	Literature: Drama (3 credits)	
ENG 107	Western World Literature: Classical (3 credits)	
ENG 108	Western World Literature: Middle Ages – Neoclassicism (3 credits)	
ENG 109	Western World Literature: Modern (3 credits)	
ENG 204	English Literature: Early (3 credits)	
ENG 205	English Literature: Middle (3 credits)	
ENG 206	English Literature: Modern (3 credits)	
ENG 207	Non-Western World Literature: Asia (3 credits)	
ENG 208	Non-Western World Literature: Africa (3 credits)	
ENG 209	Non-Western World Literature: The Americas (3 credits)	
ENG 211	Literature in Athletics (3 credits)	
ENG 215	Latino/a Literature (3 credits)	
ENG 221	Children's Literature (3 credits)	
ENG 240	Native American Literature (3 credits)	
ENG 257	African-American Literature (3 credits)	
ENG 275	Bible as Literature (3 credits)	
GEOG 202	World Geography: Latin America & the Caribbean (3 credits)	
GEOG 203	World Geography: Asia (3 credits)	
GEOG 204	World Geography: Africa & the Middle East (3 credits)	
HST 101	History of Western Civilization (3 credits)	
HST 102	History of Western Civilization (3 credits)	
HST 103	History of Western Civilization (3 credits)	
HST 157	History of the Middle East & Africa (3 credits)	
HST 158	History of Latin America (3 credits)	
HST 159	History of Asia (3 credits)	
HST 203	U.S. History: Rise to World Power (3 credits)	
HST 240	War & the Modern World (3 credits)	
HUM 101	Intro to Humanities: Prehistory, Medievalism & Beyond (3 credits)	
HUM 102	Intro to Humanities: Renaissance, Faith & Reason (3 credits)	
HUM 103	Intro to Humanities: Modernism, Globalism & Info Age (3 credits)	
MUS 105	Introduction to Rock Music (3 credits)	
MUS 161	Music Appreciation (3 credits)	
MUS 205	Introduction to Jazz (3 credits)	
PHL 201	Introduction to Philosophy (3 credits)	
PHL 202	Elementary Ethics (3 credits)	
PS 104	Problems in American Politics (3 credits)	
PS 205	Introduction to International Relations (3 credits)	
PS 220	U.S. Foreign Policy (3 credits)	
R 102	Religions of Western World (3 credits)	
R 103	Religions of Eastern World (3 credits)	
R 211	The Old Testament: Historical Background (3 credits)	
R 212	The New Testament: Historical Background (3 credits)	
SD 107	Business & Society (3 credits)	
SPN 101	First-Year Spanish I (4 credits)	
SPN 102	First-Year Spanish II (4 credits)	
SPN 103	First-Year Spanish III (4 credits)	
SPN 201	Second-Year Spanish I (4 credits)	
SPN 202	Second-Year Spanish II (4 credits)	
SPN 203	Second-Year Spanish III (4 credits)	
	Cultural Diversity/Global Awareness Credits Required	**3**
	Total General Education Credits Required	**19**

Choose additional courses for a total of 90 credits.

Appendix B

Requirements for the Associate of Arts (Oregon Transfer) Degree

The AAOT degree is an agreement between the Oregon University System and Oregon's community colleges to provide transfer of community college coursework to a state four-year institution (Oregon State University, University of Oregon, Eastern Oregon State University, Portland State University, Southern Oregon State University, Western Oregon University and Oregon Institute of Technology). Completing this degree can lead to junior standing upon transfer but does not guarantee automatic admission by the college or university. The AAOT is recognized by the colleges and universities as meeting institutional lower-division general education requirements but not necessarily school, department or major requirements with regard to courses or GPA. LBCC students are encouraged to consult with an advisor at the school they plan to attend.

Foreign Language. *Although foreign language is not required for an AAOT degree at LBCC, the OUS schools require two years of high school foreign language (same language) or two terms of college foreign language for all degrees. Furthermore, students planning to pursue a BA degree will be required to complete two years of foreign language study.*

General Education Requirements

Listed below are the general education requirements for the AAOT degree. (The required math, writing and speech courses must be completed with a grade of "C" or higher.)

Writing & Composition. *Take the following writing course:*

WR 121	English Composition (3 credits) (You must have passed WR 115 with a grade of "C" or better or attained an appropriate score on the Placement Test to enroll in WR 121.)

Also take two additional writing courses from the following list:

WR 122	English Composition: Argumentation & Style (3 credits)
WR 123	English Composition: Research (3 credits)
WR 227	Technical Writing (3 credits)
	Writing & Composition Credits Required..... 9

Speech. *Select one speech course from the following:*

SP 111	Fundamentals of Speech (3 credits)
SP 112	Introduction to Persuasion (3 credits)
SP 218	Interpersonal Communication (3 credits)
	Speech Credits Required 3

Math. *Take the following math course or a higher level math course. The general education math may not be used to meet the Math/Science/Computer Science requirement.*

MTH 105	Introduction to Contemporary Mathematics (4 credits)
	College Level Math Credits Required..... 4

Health & Physical Education. *Select three credits from the list below. (Only one activity course may be taken twice to meet general education requirements, and no more than two activity courses per term will count toward general education requirements.)*

HE 225	Social & Individual Health Determinants (3 credits)
PE 180	Activity Classes (1 credit)
PE 185	Activity Classes (1 credit)
PE 190	Activity Classes (1 credit)
PE 231	Lifetime Health & Fitness (3 credits)
	Health & Physical Education Credits Required 3
	Total General Education Credits Required..... 19

Distribution Requirements

Listed below are the distribution requirements for the AAOT degree. Additional courses may have been added since this catalog was published. Check with the Counseling Office.

Arts & Letters Courses. *Select a minimum of 9 credits with the same prefix and a minimum of 3 credit hours with a different prefix.*

ART 102	Understanding Art (3 credits)
ART 204	History of Western Art (3 credits)
ART 205	History of Western Art (3 credits)
ART 206	History of Western Art (3 credits)
ART 261	Introduction to Photography (3 credits)
ART 264	Intermediate Black & White Photography (3 credits)
ART 266	Photography: Art & Technique (3 credits)
ENG 104	Literature: Fiction (3 credits)
ENG 105	Literature: Drama (3 credits)
ENG 106	Literature: Poetry (3 credits)
ENG 107	Western World Literature: Classical (3 credits)
ENG 108	Western World Literature: Middle Ages–Neoclassisism (3 credits)
ENG 109	Western World Literature: Modern (3 credits)
ENG 110	Film Studies (3 credits)
ENG 121	Mystery Fiction (3 credits)
ENG 201	Shakespeare (3 credits)
ENG 202	Shakespeare (3 credits)
ENG 203	Shakespeare (3 credits)
ENG 204	English Literature: Early (3 credits)
ENG 205	English Literature: Middle (3 credits)
ENG 206	English Literature: Modern (3 credits)
ENG 207	Non-Western World Literature: Asia (3 credits)
ENG 208	Non-Western World Literature: Africa (3 credits)
ENG 209	Non-Western World Literature: The Americas (3 credits)
ENG 211	Literature in Athletics (3 credits)
ENG 215	Latino/a Literature (3 credits)
ENG 220	Literature of American Minorities (3 credits)
ENG 221	Children's Literature (3 credits)
ENG 240	Native American Literature (3 credits)
ENG 253	American Literature: Early (3 credits)
ENG 254	American Literature: Middle (3 credits)
ENG 255	American Literature: Modern (3 credits)
ENG 257	African-American Literature (3 credits)
ENG 260	Women Writers (3 credits)
ENG 261	Science Fiction (3 credits)
ENG 275	Bible as Literature (3 credits)
HUM 101	Intro to Humanities: Prehistory, Medievalism & Beyond (3 credits)
HUM 102	Intro to Humanities: Renaissance, Faith & Reason (3 credits)
HUM 103	Intro to Humanities: Modernism, Globalism & Info Age (3 credits)
JN 134	Introduction to Photojournalism (3 credits)
JN 201	Media & Society (4 credits)
JN 216	News Reporting & Writing (3 credits)
JN 217	Feature Writing (3 credits)
MUS 101	Music Fundamentals (3 credits)
MUS 105	Introduction to Rock Music (3 credits)
MUS 161	Music Appreciation (3 credits)
MUS 205	Introduction to Jazz (3 credits)
SPN 201	Second-Year Spanish I (4 credits)
SPN 202	Second-Year Spanish II (4 credits)
SPN 203	Second-Year Spanish III (4 credits)
TA 106	Introduction to Theater (3 credits)
TA 144	Improvisation (3 credits)
TA 145	Improvisation (3 credits)
TA 146	Improvisation (3 credits)
WR 240	Creative Writing: Nonfiction (3 credits)
WR 241	Creative Writing: Fiction (3 credits)
WR 242	Creative Writing: Poetry (3 credits)
	Arts & Letters Credits Required..... 12

Social Science Courses. *Select a minimum of 8 credits with the same prefix and a minimum of 3 credits with a different prefix, for a total of 15 credits:*

ANTH 103	Introduction to Cultural Anthropology (3 credits)
ANTH 210	Comparative Cultures (3 credits)

ANTH 230 Time Travelers (3 credits)
ANTH 232 Native North Americans (3 credits)
CJ 100 Survey of the Criminal Justice System (3 credits)
CJ 101 Introduction to Criminology (3 credits)
CJ 110 Introduction to Law Enforcement (3 credits)
CJ 120 Introduction to Judicial Process (3 credits)
CJ 130 Introduction to Corrections (3 credits)
CJ 201 Juvenile Delinquency (3 credits)
CJ 202 Violence & Aggression (3 credits)
CJ 220 Introduction to Substantive Law (3 credits)
CJ 226 Constitutional Law (3 credits)
EC 115 Outline of Economics (4 credits)
EC 201 Introduction to Microeconomics (4 credits)
EC 202 Introduction to Macroeconomics (4 credits)
EC 215 Economic Development in the U.S. (4 credits)
EC 220 Contemporary U.S. Economic Issues: Discrimination (3 credits)
GEOG 202 World Geography: Latin America & the Caribbean (3 credits)
GEOG 203 World Geography: Asia (3 credits)
GEOG 204 World Geography: Africa & the Middle East (3 credits)
HDFS 200 Human Sexuality (3 credits)
HDFS 201 Individual & Family Development (3 credits)
HDFS 222 Partner & Family Relationships (3 credits)
HDFS 225 Child Development (3 credits)
HDFS 229 School Age & Adolescent Development (3 credits)
HST 101 History of Western Civilization (3 credits)
HST 102 History of Western Civilization (3 credits)
HST 103 History of Western Civilization (3 credits)
HST 157 History of Middle East & Africa (3 credits)
HST 158 History of Latin America (3 credits)
HST 159 History of Asia (3 credits)
HST 201 U.S. History: Colonial & Revolutionary (3 credits)
HST 202 U.S. History: Civil War & Reconstruction (3 credits)
HST 203 U.S. History: Rise to World Power (3 credits)
HST 240 War & the Modern World (3 credits)
PHL 201 Introduction to Philosophy (3 credits)
PHL 202 Elementary Ethics (3 credits)
PHL 215 History of Western Philosophy (3 credits)
PS 104 Problems in American Politics (3 credits)
PS 200 Introduction to Politics (3 credits)
PS 201 Introduction to American Politics & Government (3 credits)
PS 203 State & Local Government in Oregon (3 credits)
PS 204 Introduction to Comparative Politics (3 credits)
PS 205 Introduction to International Relations (3 credits)
PS 211 Peace & Conflict (3 credits)
PS 220 U.S. Foreign Policy (3 credits)
PS 240 Introduction to Public Policy (3 credits)
PS 252 Constitutional Law (3 credits)
PSY 101 Psychology & Human Relations (3 credits)
PSY 201 General Psychology (3 credits)
PSY 202 General Psychology (3 credits)
PSY 203 General Psychology (3 credits)
PSY 215 Introduction to Developmental Psychology (3 credits)
PSY 219 Introduction to Abnormal Psychology (3 credits)
PSY 231 Human Sexuality (3 credits)
R 101 Introduction to Religious Studies (3 credits)
R 102 Religions of Western World (3 credits)
R 103 Religions of Eastern World (3 credits)
R 211 The Old Testament (3 credits)
R 212 The New Testament (3 credits)
SOC 204 General Sociology (3 credits)
SOC 205 General Sociology (3 credits)
SOC 206 General Sociology (3 credits)
SP 219 Small Group Communication (3 credits)

Social Science Credits Required 15

Math/Science/Computer Science. *Select a minimum of 15 credits, including at least 12 credits in biological or physical science courses that include laboratories. Laboratory classes are indicated below with an asterisk (*). Choose from at least two disciplines. The general education math may not be used to meet this requirement. Even though the theme of a biology course may be different, a biology course number may only be used once to satisfy the graduation requirements.*

ANS 121 Introduction to Animal Science* (4 credits)
BI 101 General Biology* (4 credits)
BI 102 General Biology* (4 credits)
BI 103 General Biology* (4 credits)
BI 200 Principles of Ecology: Field Biology* (4 credits)
BI 211 Principles of Biology* (4 credits)
BI 212 Principles of Biology* (4 credits)
BI 213 Principles of Biology* (4 credits)
BI 231 Human Anatomy & Physiology* (5 credits)
BI 232 Human Anatomy & Physiology* (5 credits)
BI 233 Human Anatomy & Physiology* (5 credits)
BI 234 Microbiology* (4 credits)
CH 121 College Chemistry* (5 credits)
CH 122 College Chemistry* (5 credits)
CH 123 College Chemistry* (5 credits)
CH 221 General Chemistry* (5 credits)
CH 222 General Chemistry* (5 credits)
CH 223 General Chemistry* (5 credits)
CH 241 Organic Chemistry* (4 credits)
CH 242 Organic Chemistry* (4 credits)
CH 243 Organic Chemistry* (4 credits)
CS 161 Introduction to Computer Science I (4 credits)
CS 162 Introduction to Computer Science II (4 credits)
CS 260 Data Structures (4 credits)
FW 251 Principles of Wildlife Conservation (3 credits)
FW 252 Wildlife Resources: Birds* (4 credits)
G 101 Introduction to Geology* (4 credits)
G 102 Introduction to Geology* (4 credits)
G 103 Introduction to Geology* (4 credits)
GEOG 121 Physical Geography (4 credits)
GS 104 Physical Science: Principles of Physics* (4 credits)
GS 105 Physical Science: Principles of Chemistry* (4 credits)
GS 106 Physical Science: Principles of Earth Science* (4 credits)
GS 108 Oceanography* (4 credits)
GS 111 Forensic Science* (4 credits)
MTH 105 Introduction to Contemporary Math (4 credits)
MTH 111 College Algebra (5 credits)
MTH 112 Trigonometry (5 credits)
MTH 211 Fundamentals of Elementary Mathematics I (4 credits)
MTH 212 Fundamentals of Elementary Mathematics II (4 credits)
MTH 213 Fundamentals of Elementary Mathematics III (4 credits)
MTH 231 Elements of Discrete Math (4 credits)
MTH 232 Elements of Discrete Math (4 credits)
MTH 241 Calculus for Biological/Management/Social Sciences (4 credits)
MTH 243 Introduction to Statistics (4 credits)
MTH 245 Math for Biological/Management/Social Sciences (4 credits)
MTH 251 Differential Calculus (5 credits)
MTH 252 Integral Calculus (5 credits)
MTH 253 Calculus (4 credits)
MTH 254 Calculus (4 credits)
MTH 255 Vector Calculus (4 credits)
MTH 256 Applied Differential Equations (4 credits)
MTH 265 Statistics for Scientists & Engineers (4 credits)
PH 104 Descriptive Astronomy* (4 credits)
PH 201 General Physics* (5 credits)
PH 202 General Physics* (5 credits)
PH 203 General Physics* (5 credits)
PH 211 General Physics with Calculus* (5 credits)
PH 212 General Physics with Calculus* (5 credits)
PH 213 General Physics with Calculus* (5 credits)

Science/Math/Computer Science Credits Required 15

Total Distribution Credits Required: 42

Additional courses for a total of 90 credits. *(Up to 12 professional technical credits may be included. Professional technical credits are professional technical courses that are required in state-approved professional technical programs.)*

Total Credits Required: 90

Appendix C

Requirements for the Associate of Science Degree (Oregon State Direct Transfer)

The Associate of Science degree is a transfer degree intended especially to facilitate a transfer to Oregon State University and is an agreement between Oregon State University and Linn-Benton Community College to provide transfer of LBCC coursework to OSU. Students who complete this degree and are accepted to Oregon State University will be admitted as having completed all lower-division general education (Baccalaureate Core) requirements but not necessarily school, department, or major requirements with regard to courses or GPA. Students are encouraged to consult with an advisor at OSU. For a list of accepted courses at OSU, refer to the LBCC web site. Go to *http://www.linnbenton.edu/degreepartnership*, then click on the "helpful links" button and look for the "Articulation Tables" links. (The Articulation Tables identify course equivalencies.)

Students pursuing the Associate of Science degree **must** meet additional program emphasis requirements. If your area of interest is not listed as an AS degree in this catalog, check with an LBCC advisor or counselor to determine the one that is most appropriate for your career goal.

For students **not** transferring to Oregon State University, AS degree credits transfer to all four-year institutions on a course-by-course basis. The assignment of LBCC credit to particular requirements of other schools is made by the institution to which the transfer is being made.

Foreign Language: *Although foreign language is not required for an AS degree at LBCC, OSU requires two years of high school foreign language (same language) or two terms of college foreign language for all degrees. Furthermore, students planning to pursue a BA degree at OSU will be required to complete two years of foreign language study.*

General Education Requirements

Listed below are the general education requirements for the AS degree. Specific courses that meet these requirements are listed in this catalog and are available from program advisors. No more than two courses with the same alpha prefix may be used by a student to meet the general education requirement.

Writing/Composition. *Take the following course:*

WR 121	English Composition (3 credits) (You must have passed WR 115 with a grade of "C" or better or attained an appropriate score on the Placement Test to enroll in WR 121.)

Also select one writing course from the following:

JN 216	News Reporting & Writing (3 credits)
WR 122	English Composition: Argumentation (3 credits)
WR 123	English Composition: Research (3 credits)
WR 185	Understanding English Grammar (3 credits)
WR 214	Business Communication (3 credits)
WR 227	Technical Writing (3 credits)
WR 228	Technical Writing II (3 credits)
WR 241	Creative Writing: Fiction (3 credits)
WR 242	Creative Writing: Poetry (3 credits)
WR 243	Creative Writing: Script Writing(3 credits)
WR 244	Advanced Creative Writing: Fiction (3 credits)
	Writing/Composition Credits Required 6

Speech. *Select one speech course from the following:*

SP 111	Fundamentals of Speech (3 credits)
SP 112	Introduction to Persuasion (3 credits)
SP 218	Interpersonal Communication (3 credits)
	Speech Credits Required 3

Math. *Select 4 math credits from the following:*

MTH 105	Introduction to Contemporary Mathematics (4 credits)
MTH 111	College Algebra (5 credits)
MTH 112	Trigonometry (5 credits)
MTH 211	Fundamentals of Elementary Mathematics I (4 credits)
MTH 212	Fundamentals of Elementary Mathematics II (4 credits)
MTH 213	Fundamentals of Elementary Mathematics III (4 credits)
MTH 231	Elements of Discrete Mathematics (4 credits)
MTH 232	Elements of Discrete Mathematics (4 credits)
MTH 241	Calculus for Biological/Management/Social Sciences (4 credits)
MTH 243	Introduction to Statistics (4 credits)
MTH 245	Math for Biological/Management/Social Sciences (4 credits)
MTH 251	Differential Calculus (5 credits)
MTH 252	Integral Calculus (5 credits)
MTH 253	Calculus (4 credits)
MTH 254	Calculus (4 credits)
MTH 255	Vector Calculus (4 credits)
MTH 256	Applied Differential Equations (4 credits)
MTH 265	Statistics for Scientists & Engineers (4 credits)
	Math Credits Required 4

Health & Physical Education. *Take the following class:*

PE 231	Lifetime Health & Fitness (3 credits)
	Fitness Credits Required 3

Perspectives. *Listed below are the perspectives requirements for the AS degree. Specific courses that meet these requirements are listed in this catalog and are available from program advisors. Even though the theme of a biology course may be different, a biology course number may only be used once to satisfy the graduation requirements.*

Biology Perspectives. *Select one of the following courses:*

ANS 121	Introduction to Animal Science (4 credits)
BI 101	General Biology (4 credits)
BI 102	General Biology (4 credits)
BI 103	General Biology (4 credits)
BI 200	Principles of Ecology: Field Biology (4 credits)
BI 211	Principles of Biology (4 credits)
BI 212	Principles of Biology (4 credits)
BI 213	Principles of Biology (4 credits)
BI 234	Microbiology (4 credits)
CSS 205	Soils: Sustainable Ecosystems (4 credits)
	Biological Science Credits Required 4

Physical Science Perspectives. *Select one of the following courses:*

CH 121	College Chemistry (5 credits)
CH 122	College Chemistry (5 credits)
CH 123	College Chemistry (5 credits)
CH 201	Chemistry for Engineering Majors I (5 credits)
CH 202	Chemistry for Engineering Majors II (5 credits)
CH 221	General Chemistry (5 credits)
CH 222	General Chemistry (5 credits)
CH 223	General Chemistry (5 credits)
G 101	Introduction to Geology (4 credits)
G 102	Introduction to Geology (4 credits)
G 103	Introduction to Geology (4 credits)
GEOG 121	Physical Geography (4 credits)
GS 104	Physical Science: Principles of Physics (4 credits)
GS 105	Physical Science: Principles of Chemistry (4 credits)
GS 106	Physical Science: Principles of Earth Science (4 credits)
GS 108	Oceanography (4 credits)
PH 104	Descriptive Astronomy (4 credits)
PH 201	General Physics (5 credits)
PH 202	General Physics (5 credits)
PH 203	General Physics (5 credits)
PH 211	General Physics with Calculus (5 credits)
PH 212	General Physics with Calculus (5 credits)
PH 213	General Physics with Calculus (5 credits)
	Physical Science Credits Required 4

Also select an additional course from either list above (physical science or biological science).

Physical/Biological Science Credits Required 4

Cultural Diversity Perspectives. *Select 3 credits from the following:*

ANTH 210	Comparative Cultures (3 credits)
ANTH 230	Time Travelers (3 credits)
ANTH 232	Native North Americans (3 credits)

ENG 207 Non-Western World Literature: Asia (3 credits)
ENG 208 Non-Western World Literature: Africa (3 credits)
ENG 209 Non-Western World Literature: The Americas (3 credits)
ENG 215 Latino/a Literature (3 credits)
ENG 240 Native American Literature (3 credits)
ENG 257 African-American Literature (3 credits)
GEOG 202 World Geography: Latin America & the Caribbean (3 credits)
GEOG 203 World Geography: Asia (3 credits)
GEOG 204 World Geography: Africa & the Middle East (3 credits)
HST 157 History of the Middle East & Africa (3 credits)
HST 158 History of Latin America (3 credits)
HST 159 History of Asia (3 credits)
HUM 101 Intro to Humanities: Prehistory, Medievalism & Beyond (3 credits)
HUM 102 Intro to Humanities: Renaissance, Faith & Reason (3 credits)
HUM 103 Intro to Humanities: Modernism, Globalism & Info Age (3 credits)
R 101 Introduction to Religious Studies (3 credits)
R 102 Religions of Western World (3 credits)
R 103 Religions of Eastern World (3 credits)
Cultural Diversity Credits Required 3

Difference, Power & Discrimination Perspectives. *Select 3 credits from the following:*

EC 220 Contemporary U.S. Economic Issues (3 credits)
ENG 220 Literature of American Minorities (credits)
HDFS 201 Individual & Family Development (3 credits)
HST 201 U.S. History: Colonial & Revolutionary (3 credits)
HST 202 U.S. History: Civil War & Reconstruction (3 credits)
HST 203 U.S. History: Rise to World Power (3 credits)
SOC 206 General Sociology (3 credits)
SOC 222 Marriage Relationships (3 credits)
Difference/Power/Discrimination Credits Required 3

Literature & the Arts Perspectives. *Select 3 credits from the following:*

ART 102 Understanding Art (3 credits)
ART 204 History of Western Art (3 credits)
ART 205 History of Western Art (3 credits)
ART 206 History of Western Art (3 credits)
ENG 104 Literature: Fiction (3 credits)
ENG 105 Literature: Drama (3 credits)
ENG 106 Literature: Poetry (3 credits)
ENG 107 Western World Literature: Classical (3 credits)
ENG 108 Western World Literature: Middle Ages–Neoclassicism (3 credits)
ENG 109 Western World Literature: Modern (3 credits)
ENG 110 Film Studies (3 credits)
ENG 121 Mystery Fiction (3 credits)
ENG 201 Shakespeare (3 credits)
ENG 202 Shakespeare (3 credits)
ENG 203 Shakespeare (3 credits)
ENG 204 English Literature: Early (3 credits)
ENG 205 English Literature: Middle (3 credits)
ENG 206 English Literature: Modern (3 credits)
ENG 207 Non-Western World Literature: Asia (3 credits)
ENG 208 Non-Western World Literature: Africa (3 credits)
ENG 209 Non-Western World Literature: The Americas (3 credits)
ENG 215 Latino/a Literature (3 credits)
ENG 220 Literature of American Minorities (3 credits)
ENG 221 Children's Literature (3 credits)
ENG 240 Native American Literature (3 credits)
ENG 253 American Literature: Early (3 credits)
ENG 254 American Literature: Middle (3 credits)
ENG 255 American Literature: Modern (3 credits)
ENG 257 African American Literature (3 credits)
ENG 260 Women Writers (3 credits)
ENG 261 Science Fiction (3 credits)
HUM 101 Intro to Humanities: Prehistory, Medievalism & Beyond (3 credits)
HUM 102 Intro to Humanities: Renaissance, Faith & Reason (3 credits)
HUM 103 Intro to Humanities: Modernism, Globalism & Info Age (3 credits)
MUS 105 Introduction to Rock Music (3 credits)
MUS 161 Music Appreciation (3 credits)
MUS 205 Introduction to Jazz (3 credits)
TA 106 Introduction to Theater (3 credits)
Literature & the Arts Credits Required 3

Social Processes & Institutions Perspectives. *Select 3 credits from the following:*

ANTH 103 Introduction to Cultural Anthropology (3 credits)
EC 201 Introduction to Microeconomics (4 credits)
EC 202 Introduction to Macroeconomics (4 credits)
HDFS 200 Human Sexuality (3 credits)
HDFS 201 Individual & Family Development (3 credits)
HE 225 Social & Individual Health Determinants (3 credits)
HST 101 History of Western Civilization (3 credits)
HST 102 History of Western Civilization (3 credits)
HST 103 History of Western Civilization (3 credits)
PHL 201 Introduction to Philosophy (3 credits)
PHL 202 Elementary Ethics (3 credits)
PS 104 Problems in American Politics (3 credits)
PS 200 Introduction to Politics (3 credits)
PS 201 Introduction to American Politics & Government (3 credits)
PS 204 Introduction to Comparative Politics (3 credits)
PS 205 Introduction to International Relations (3 credits)
PSY 201 General Psychology (3 credits)
PSY 202 General Psychology (3 credits)
PSY 203 General Psychology (3 credits)
PSY 231 Human Sexuality (3 credits)
SOC 204 General Sociology (3 credits)
SOC 205 General Sociology (3 credits)
Social Processes & Institutions Credits Required 3

Western Culture Perspectives. *Select 3 credits from the following:*

ART 204 History of Western Art (3 credits)
ART 205 History of Western Art (3 credits)
ART 206 History of Western Art (3 credits)
EC 215 Economic Development of the U.S. (4 credits)
ENG 105 Literature: Drama (3 credis)
ENG 107 Western World Literature: Classical (3 credits)
ENG 108 Western World Lit: Middle Ages Through Neoclassicism (3 credits)
ENG 109 Western World Literature: Modern (3 credits)
ENG 110 Film Studies (3 credits)
ENG 201 Shakespeare (3 credits)
ENG 202 Shakespeare (3 credits)
ENG 203 Shakespeare (3 credits)
ENG 204 English Literature: Early (3 credits)
ENG 205 English Literature: Middle (3 credits)
ENG 206 English Literature: Modern (3 credits)
ENG 253 American Literature: Early (3 credits)
ENG 254 American Literature: Middle (3 credits)
ENG 255 American Literature: Modern (3 credits)
HST 101 History of Western Civilization (3 credits)
HST 102 History of Western Civilization (3 credits)
HST 103 History of Western Civilization (3 credits)
HST 150 Science & Culture in the Western Tradition (3 credits)
HST 201 U.S. History: Colonial & Revolutionary (3 credits)
HST 202 U.S. History: Civil War & Reconstruction (3 credits)
HST 203 U.S. History: Rise to World Power (3 credits)
HUM 101 Intro to Humanities: Prehistory, Medievalism & Beyond (3 credits)
HUM 102 Intro to Humanities: Renaissance, Faith & Reason (3 credits)
HUM 103 Intro to Humanities: Modernism, Globalism & Info Age (3 credits)
PHL 201 Introduction to Philosophy (3 credits)
PHL 202 Elementary Ethics (3 credits)
PHL 215 History of Western Philosophy (3 credits)
R 211 The Old Testament: Historical Background (3 credits)
R 212 The New Testament: Historical Background (3 credits)
Western Culture Credits Required 3

Total General Education Credits Required 43
Program Emphasis Requirements 47

Complete at least 47 credits based on program emphasis requirements. See specific program information. (Up to 12 professional technical credits may be included. Professional technical credits are professional technical courses that are required in state-approved professional technical programs.)

Total Credits Required: 90

LBCC ASSOCIATE OF SCIENCE DEGREES LEADING TO OSU DEGREES

LBCC Associate of Science Degree	OSU Degree
Agricultural Business Management	Environmental Economics, Policy & Management (BS)
	Agricultural Business Management (BS)
Agriculture, General	Crop & Soil Science (BS)
	General Agriculture (BS)
	Horticulture (BS)
	Rangeland Resources (BS)
Animal Science	Animal Sciences (BS)
Art Applied Visual Arts (BFA)	
	Art (BA or BS)
Biological Sciences	Biology (BS)
	Bioresource Research (BS)
	Botany (BS)
	Environmental Science (BS)
	Fisheries & Wildlife Science (BS)
	Food Science & Technology (BS)
	Forest Management (BS)
	Medical Technology (BS)
	Microbiology (BS)
	Zoology (BA)
Biological Sciences or Chemistry or Physics	Biochemistry & Biophysics (BS)
Biological Sciences or Physics	Radiation Health Physics (BS)
Business Administration	Business Administration (BA or BS)
Chemistry	Chemistry (BA or BS)
	Pre-Pharmacy (BS)
	Wood Science Technology (BS)
Computer Science	Computer Science (BA or BS)
Economics	Economics (BA or BS)
Education	Elementary: Human Development & Family Sciences or General Science or Liberal Studies
	*Secondary: Academic subject major or Technology Education (BA or BS)
Engineering	Chemical Engineering (BS)
	Civil Engineering (BA or BS)
	Civil Engineering - Forest Engineering (BS)
	Computer Engineering (BS)
	Construction Engineering Management (BA or BS)
	Electrical & Electronics Engineering (BS)
	Engineering Physics (BS)
	Environmental Engineering (BA or BS)
	Forest Engineering (BS)
	Forest Engineering - Civil Engineering (BS)
	Industrial Engineering (BS)
	Manufacturing Engineering (BS)
	Mechanical Engineering (BS)
	Nuclear Engineering (BS)
English	English (BA)
Equine Science	Equine Science (BS)
Exercise & Sport Science	Exercise & Sport Science (BS)
Foreign Language	French (BA)
	German (BA)
	Spanish (BA)

LBCC Associate of Science Degree	OSU Degree
General Science	Recreation Resources Programs (BS)
	General Science (BS)
	Geology (BA or BS)
	Natural Resources (BS)
Health & Human Sciences	Apparel Design (BS)
(formerly Home Economics)	Housing Studies (BS)
	Human Development & Family Sciences (BS)
	Interior Design (BS)
	Merchandising Management (BS)
	Nutrition & Food Management (BS)
Health Promotion & Education	Health Promotion & Health Behavior (BS)
Horticulture	Horticulture (BS)
Journalism/Mass Communications	** (BA or BS)
Mathematics	Mathematical Sciences (BS)
	Mathematics (BS)
Music	Music (BA or BS)
Physics	Physics (BA or BS)
	Computational Physics (BS)
Pre-Restaurant Management	Restaurant & Food Service Management (BS)
Social Science	American Studies (BA or BS)
	Anthropology (BA or BS)
	Ethnic Studies (BA or BS)
	History (BA or BS)
	Philosophy (BA or BS)
	Political Science (BA or BS)
	Psychology (BA or BS)
	Sociology (BA or BS)
Speech Communication	Speech Communication (BA or BS)
Theater	Theater Arts (BA or BS)

*Students who are interested in secondary education need an academic subject major and need to see an Education advisor.

**Journalism: Students who complete the AS degree in Journalism should plan to complete the Liberal Studies degree at OSU with a concentration in Mass Communications. Contact the Journalism advisor at LBCC or the Liberal Studies advisor at OSU for a complete list of recommended courses.

Appendix D

Liberal Arts Core Requirements for the Associate of Science Degree

Programs that have this requirement include: Art, Economics, English, Journalism and Mass Communication, Music, Social Science, Speech Communication, Technical Communications and Theater.

I. *Select one course from the following:*

ART	102, 115, 116, 131, 132, 133, 154, 161, 181, 204, 205, 206, 234, 281
MP	122/222, 141/241
MUS	105, 161, 205
TA	106, 121, 122, 144, 145, 146, 180/282, 185/285
WR	241, 242
	Credits Required 3

II. *Select one course from the following:*

ENG	All ENG except 199
HST	All HST except 198
HUM	101, 102, 103
PHL	201, 202, 215
R	101, 102, 103, 211, 212
	Credits Required 3

III. *Select one course from the following:*

ANTH	210, 232
ENG	207, 208, 209
HST	157, 158, 159
R	103
	Credits Required 3

IV. *Select one course from the following:*

ANTH	103, 210, 230, 232
EC	115, 201, 202, 215, 220
PS	104, 200, 201, 203, 204, 205, 220, 252
PSY	101, 201, 202, 203, 215, 231
SOC	204, 205, 206, 222
	Credits Required 3

V. *Select one additional course from previous categories I – IV.*

Credits Required 3
Total Liberal Arts Core Credits Required..... 15

No credit may be used for more than one requirement.

Appendix E

Requirements for the Associate of General Studies Degree

1. Complete the general education requirements and 55 credits of electives.
2. Complete a minimum of 90 credits.
3. Complete a minimum of 24 credits at Linn-Benton Community College.
4. Maintain a minimum accumulative grade point average of 2.00.

General Education Requirements. *Courses numbered 0. (zero decimal) will not apply toward general education requirements.*

Writing/Composition. *Take the following course:*

WR 121 English Composition (3 credits)
(You must pass WR 115 with a "C" or better or attain an appropriate score on the Placement Test to enroll in WR 121.)
Writing/Composition Credits Required 3

Speech. *Select one speech course:*

SP 100 Introduction to Speech Communication (3 credits)
SP 111 Fundamentals of Speech (3 credits)
SP 112 Introduction to Persuasion (3 credits)
SP 218 Interpersonal Communication (3 credits)
Speech Credits Required 3

Math. *Take the following course or a higher level math course:*

MTH 061 Survey of Math Fundamentals (3 credits)

Also select one class from the following:

MTH 062 Occupational Trigonometry (1 credit)
MTH 063 Industrial Shop Math (1 credit)
MTH 064 Business Applications of Math Fundamentals (1 credit)
Math Credits Required 4

Health & Physical Education. *Select 4 credits. (Only one activity course may be taken twice to meet general education requirements, and no more than two activity courses per quarter will count toward general education requirements.)*

HE 112 Emergency First Aid (1 credit)
HE 125 Occupational Safety & Health (3 credits)
HE 225 Social & Individual Health Determinants (3 credits)
HE 252 First Aid (3 credits)
HE 261 CPR (1 credit)
PE 185 Activity Courses (1 credit)
PE 231 Lifetime Health & Fitness (3 credits)
Health & Physical Education Credits Required 4

General Electives. *Select 55 general elective courses.*

General Electives Required..... 55

Focused Electives. *Also select 21 focused electives from either Option 1 or Option 2.*

Option 1. *Select 21 credits from the following categories, with a minimum of 3 credits from each group. To determine if a class may be applied toward fulfilling these requirements for the Associate of General Studies degree, look for the proper symbol in the "Course Descriptions" section of this catalog.*

- **The Humanities/Arts group:**
 Art, creative writing, foreign languages (200-level courses only), literature, music, philosophy, religion, theater
- **The Social Science group:**
 History, psychology, sociology, political science, anthropology, economics
- **The Math/Science group:**
 Mathematics, biology, botany, physical science, physics, zoology

Focused Elective Credits for Option 1..... 21

Option 2. *Select 21 credits of professional technical courses that are required in one- or two-year programs.*

Focused Elective Credits for Option 2..... 21

Total Credits Required: 90

Appendix F

Requirements for the Oregon Transfer Module

Any student awarded an Oregon Transfer Module will have met the requirements for the Transfer Module at any Oregon community college or institution in the Oregon University System. Upon transfer, the receiving institution may specify additional coursework that is required for a major or for degree requirements or to make up the difference between the Transfer Module and the institution's total General Education requirements.

General Education Requirements

All courses must be completed with a grade of "C" or higher. Students must have a minimum cumulative GPA of 2.0 at the time the module is awarded.

Writing. *Take two of the following writing courses:*

WR 121	English Composition (3 credits) (You must have passed WR 115 with a grade of "C" or better or attained an appropriate score on the Placement Test to enroll in WR 121.)
WR 122	English Composition: Argumentation & Style (3 credits)
WR 123	English Composition: Research (3 credits)
WR 227	Technical Writing (3 credits)
	Writing Credits Required..... 6

Oral Communication. *Select one speech course from the following:*

SP 111	Fundamentals of Speech (3 credits)
SP 112	Introduction to Persuasion (3 credits)
SP 218	Interpersonal Communication (3 credits)
	Oral Communication Credits Required 3

Mathematics. *Take the following math course or a higher level math course. The general education math may not be used to meet the Math/Science/Computer Science requirement.*

MTH 105	Introduction to Contemporary Mathematics (4 credits)
	College Level Math Credits Required..... 4

Introduction to Disciplines. *Listed below are the requirements for the Oregon Transfer Module. Additional courses may have been added since this catalog was published. Check with the Counseling Office.*

Arts & Letters Courses. *Select a minimum of three courses.*

ART 102	Understanding Art (3 credits)
ART 204	History of Western Art (3 credits)
ART 205	History of Western Art (3 credits)
ART 206	History of Western Art (3 credits)
ART 261	Introduction to Photography (3 credits)
ART 264	Intermediate Black & White Photography (3 credits)
ART 266	Photography: Art & Technique (3 credits)
ENG 104	Literature: Fiction (3 credits)
ENG 105	Literature: Drama (3 credits)
ENG 106	Literature: Poetry (3 credits)
ENG 107	Western World Literature: Classical (3 credits)
ENG 108	Western World Literature: Middle Ages Through Neoclassisism (3 credits)
ENG 109	Western World Literature: Modern (3 credits)
ENG 110	Film Studies (3 credits)
ENG 121	Mystery Fiction (3 credits)
ENG 201	Shakespeare (3 credits)
ENG 202	Shakespeare (3 credits)
ENG 203	Shakespeare (3 credits)
ENG 204	English Literature: Early (3 credits)
ENG 205	English Literature: Middle (3 credits)
ENG 206	English Literature: Modern (3 credits)
ENG 207	Non-Western World Literature: Asia (3 credits)
ENG 208	Non-Western World Literature: Africa (3 credits)
ENG 209	Non-Western World Literature: The Americas (3 credits)
ENG 211	Literature in Athletics (3 credits)
ENG 220	Literature of American Minorities (3 credits)
ENG 221	Children's Literature (3 credits)
ENG 240	Native American Literature (3 credits)
ENG 253	American Literature: Early (3 credits)
ENG 254	American Literature: Middle (3 credits)
ENG 255	American Literature: Modern (3 credits)
ENG 260	Women Writers (3 credits)
ENG 261	Science Fiction (3 credits)
ENG 275	Bible as Literature (3 credits)
HUM 101	Humanities: Prehistoric to Middle Ages (3 credits)
HUM 102	Humanities: Renaissance Through the Enlightenment (3 credits)
HUM 103	Humanities: The Romantic Era to Contemporary Society (3 credits)
JN 134	Introduction to Photojournalism (3 credits)
JN 201	Media & Society (4 credits)
JN 216	News Reporting & Writing (3 credits)
JN 217	Feature Writing (3 credits)
MUS 101	Music Fundamentals (3 credits)
MUS 105	Introduction to Rock Music (3 credits)
MUS 161	Music Appreciation (3 credits)
MUS 205	Introduction to Jazz (3 credits)
SPN 201	Second-Year Spanish I (4 credits)
SPN 202	Second-Year Spanish II (4 credits)
SPN 203	Second-Year Spanish III (4 credits)
TA 106	Introduction to Theater (3 credits)
TA 144	Improvisation (3 credits)
TA 145	Improvisation (3 credits)
TA 146	Improvisation (3 credits)
WR 240	Creative Writing: Nonfiction (3 credits)
WR 241	Creative Writing: Fiction (3 credits)
WR 242	Creative Writing: Poetry (3 credits)
	Arts & Letters Credits Required..... 9

Social Science Courses. *Select a minimum of three courses:*

ANTH 103	Introduction to Cultural Anthropology (3 credits)
ANTH 210	Comparative Cultures (3 credits)
ANTH 230	Time Travelers (3 credits)
ANTH 232	Native North Americans (3 credits)
CJ 100	Survey of the Criminal Justice System (3 credits)
CJ 101	Introduction to Criminology (3 credits)
CJ 110	Introduction to Law Enforcement (3 credits)
CJ 120	Introduction to Judicial Process (3 credits)
CJ 130	Introduction to Corrections (3 credits)
CJ 201	Juvenile Delinquency (3 credits)
CJ 202	Violence & Aggression (3 credits)
CJ 220	Introduction to Substantive Law (3 credits)
CJ 226	Constitutional Law (3 credits)
EC 115	Outline of Economics (4 credits)
EC 201	Introduction to Microeconomics (4 credits)
EC 202	Introduction to Macroeconomics (4 credits)
EC 215	Economic Development in the U.S. (4 credits)
EC 220	Contemporary U.S. Economic Issues: Discrimination (3 credits)
GEOG 202	World Geography: Latin America & the Caribbean (3 credits)
GEOG 203	World Geography: Asia (3 credits)
GEOG 204	World Geography: Africa & the Middle East (3 credits)
HDFS 200	Human Sexuality (3 credits)
HDFS 201	Individual & Family Development (3 credits)
HDFS 222	Partner & Family Relationships (3 credits)
HDFS 225	Child Development (3 credits)
HDFS 229	School Age & Adolescent Development (3 credits)
HST 101	History of Western Civilization (3 credits)
HST 102	History of Western Civilization (3 credits)

HST 103 History of Western Civilization (3 credits)
HST 157 History of Middle East & Africa (3 credits)
HST 158 History of Latin America (3 credits)
HST 159 History of Asia (3 credits)
HST 201 U.S. History: Colonial & Revolutionary (3 credits)
HST 202 U.S. History: Civil War & Reconstruction (3 credits)
HST 203 U.S. History: Rise to World Power (3 credits)
HST 240 War & the Modern World (3 credits)
PHL 201 Introduction to Philosophy (3 credits)
PHL 202 Elementary Ethics (3 credits)
PHL 215 History of Western Philosophy (3 credits)
PS 104 Problems in American Politics (3 credits)
PS 200 Introduction to Politics (3 credits)
PS 201 Introduction to American Politics & Government (3 credits)
PS 203 State & Local Government in Oregon (3 credits)
PS 204 Introduction to Comparative Politics (3 credits)
PS 205 Introduction to International Relations (3 credits)
PS 211 Peace & Conflict (3 credits)
PS 220 U.S. Foreign Policy (3 credits)
PS 240 Introduction to Public Policy (3 credits)
PS 252 Constitutional Law (3 credits)
PSY 101 Psychology & Human Relations (3 credits)
PSY 201 General Psychology (3 credits)
PSY 202 General Psychology (3 credits)
PSY 203 General Psychology (3 credits)
PSY 215 Introduction to Developmental Psychology (3 credits)
PSY 219 Introduction to Abnormal Psychology (3 credits)
PSY 231 Human Sexuality (3 credits)
R 101 Introduction to Religious Studies (3 credits)
R 102 Religions of Western World (3 credits)
R 103 Religions of Eastern World (3 credits)
R 211 The Old Testament (3 credits)
R 212 The New Testament (3 credits)
SOC 204 General Sociology (3 credits)
SOC 205 General Sociology (3 credits)
SOC 206 General Sociology (3 credits)
SP 219 Small Group Communication (3 credits)

Social Science Credits Required 9

Math/Science/Computer Science Courses. *Select three courses, including at least one biological or physical science with a lab. Laboratory classes are indicated below with an asterisk (*).*

ANS 121 Introduction to Animal Science* (4 credits)
BI 101 General Biology* (4 credits)
BI 102 General Biology* (4 credits)
BI 103 General Biology* (4 credits)
BI 200 Principles of Ecology: Field Biology* (4 credits)
BI 211 Principles of Biology* (4 credits)
BI 212 Principles of Biology* (4 credits)
BI 213 Principles of Biology* (4 credits)
BI 231 Human Anatomy & Physiology* (5 credits)
BI 232 Human Anatomy & Physiology* (5 credits)
BI 233 Human Anatomy & Physiology* (5 credits)
BI 234 Microbiology* (4 credits)
CH 121 College Chemistry* (5 credits)
CH 122 College Chemistry* (5 credits)
CH 123 College Chemistry* (5 credits)
CH 221 General Chemistry* (5 credits)
CH 222 General Chemistry* (5 credits)
CH 223 General Chemistry* (5 credits)
CH 241 Organic Chemistry* (4 credits)
CH 242 Organic Chemistry* (4 credits)
CH 243 Organic Chemistry* (4 credits)
CS 161 Introduction to Computer Science I (4 credits)
CS 162 Introduction to Computer Science II (4 credits)
CS 261 Data Structures (4 credits)
FW 251 Principles of Wildlife Conservation (3 credits)
FW 252 Wildlife Resources: Birds* (4 credits)
G 101 Introduction to Geology* (4 credits)
G 102 Introduction to Geology* (4 credits)
G 103 Introduction to Geology* (4 credits)
GS 104 Physical Science: Principles of Physics* (4 credits)
GS 105 Physical Science: Principles of Chemistry* (4 credits)
GS 106 Physical Science: Principles of Earth Science* (4 credits)
GS 108 Oceanography* (4 credits)
GS 111 Forensic Science* (4 credits)
MTH 105 Introduction to Contemporary Math (4 credits)
MTH 111 College Algebra (5 credits)
MTH 112 Trigonometry (5 credits)
MTH 211 Fundamentals of Elementary Mathematics I (4 credits)
MTH 212 Fundamentals of Elementary Mathematics II (4 credits)
MTH 213 Fundamentals of Elementary Mathematics III (4 credits)
MTH 231 Elements of Discrete Math (4 credits)
MTH 232 Elements of Discrete Math (4 credits)
MTH 241 Calculus for Biological/Management/Social Sciences (4 credits)
MTH 243 Introduction to Statistics (4 credits)
MTH 245 Math for Biological/Management/Social Sciences (4 credits)
MTH 251 Differential Calculus (5 credits)
MTH 252 Integral Calculus (5 credits)
MTH 253 Calculus (4 credits)
MTH 254 Calculus (4 credits)
MTH 255 Vector Calculus (4 credits)
MTH 256 Applied Differential Equations (4 credits)
MTH 265 Statistics for Scientists & Engineers (4 credits)
PH 104 Descriptive Astronomy* (4 credits)
PH 201 General Physics* (5 credits)
PH 202 General Physics* (5 credits)
PH 203 General Physics* (5 credits)
PH 211 General Physics with Calculus* (5 credits)
PH 212 General Physics with Calculus* (5 credits)
PH 213 General Physics with Calculus* (5 credits)

Science/Math/Computer Science Credits Required 11

Additional courses for a total of 45 credits.

Total Credits Required: 45

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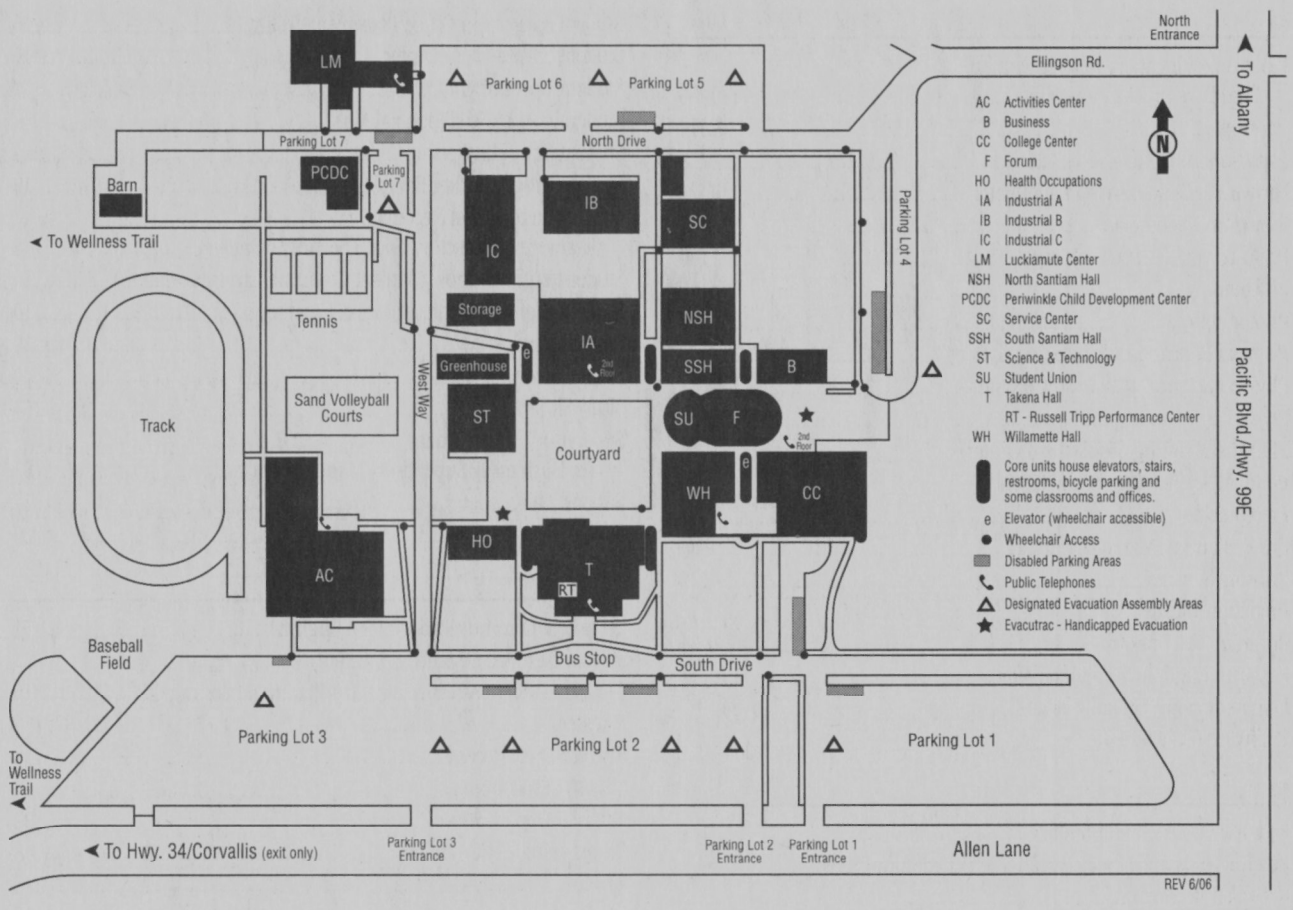
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LBCC Direct-Dial Telephone Numbers

All campus offices have direct-dial numbers for your convenience. These phone lines bypass the college switchboard and save time for you as well as for the college. Please use the direct-dial numbers whenever possible.

Switchboard	917-4999
Admissions	917-4811
Albany Community Education	917-4840
Arts and Communication	917-4530
Assessment Center (Testing)	917-4781
Benton Center (Corvallis)	757-8944
Bookstore	917-4950
Business Technology	917-4285
Business & Computer Systems	917-4255
Business and Employer Services	917-4923
Business Office (payments, loan disbursements, etc.)	917-4312
Child Care	917-4899
Counseling/Advising/Career Center	917-4780
Engineering & Industrial Technology	917-4582
Family Resources Department	917-4897
Financial Aid	917-4850
First Stop Entry Center	917-4811
Foundation/Development	917-4209
Health & Human Services	917-4237
Health Occupations and Workforce Education	917-4510
HOSEC	917-4510
Hospitality Services/Room Reservations	917-4385
Human Resources/Payroll	917-4420
JOBS Program	917-4875
Lebanon Center	259-5801
Math & Science	917-4739
Nursing	917-4511
President's Office	917-4200
Registration	917-4812
Russell Tripp Performance Center Box Office	917-4531
Security	917-4440
Student Employment	917-4780
Student Life & Leadership	917-4457
Sweet Home Center	367-6901
Transcripts	917-4830
Veterans Affairs	917-4858

For additional campus maps and driving directions, go to www.linnbenton.edu/go/campus-maps

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Linn-Benton
COMMUNITY COLLEGE